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AUGUST, 1905

# THE AUTOMOBILE MAGAZINE

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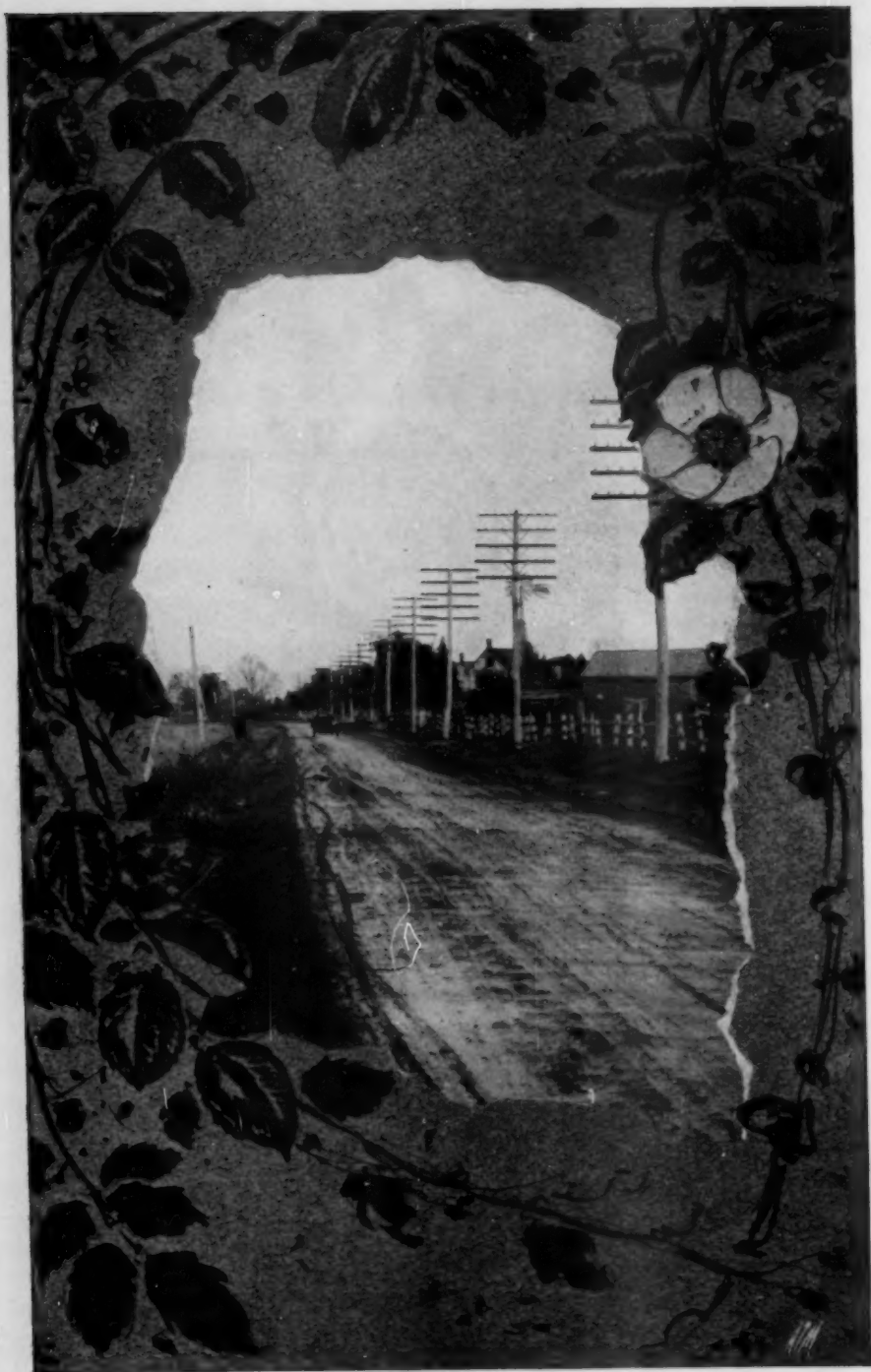
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## My Record Ride—an Adirondack Memory

*By Dorothy Hopkins*



CERTAINLY the climb had been exhilarating, the view from the summit entrancing and the chat around the "friendship fire" while partaking of the dainty luncheon, enlivening. We were so enthusiastic over the whole trip that we lingered on and on, forgetful of the miles between us and the hotel, until the glory of the setting sun brought a sudden realization that darkness was almost upon us.

Such a scramble ensued—the varied experiences of that downward journey would fill a volume—suffice it to say that we did keep to the trail in the pitch blackness under the balsam trees, and were anticipating our triumphant entry into the hotel, proving thereby that we were not of the tenderfoot variety. Suddenly in the distance when not more than a half mile from our goal a conch-shell sounded its mellow note; we shouted in response, expecting some of the young people to answer us. Instead, the report of a rifle came to us and soon we were in the midst of a party of mountaineers with guns and lanterns.

They greeted us with "Well, we're glad to see you safe," and proceeded to unfold a lurid tale of hearing the shrill screams of a "painter" in the woods—one man claiming to have seen a wild-eyed furry creature when he came to meet us bearing a lantern to guide our homeward steps, and how finally it was deemed best for the whole party to come in search of us.

Disgustedly we listened, feeling confident 'twas some trick of the hardy mountain guides upon we city bred youngsters. The very way in which they muttered softly, "so's not to frighten the young lady," aroused my feminine ire, I being the sole specimen of the gentler sex in our party of five.

"Bah!" I ejaculated inelegantly, "I guess if a panther had screamed very much we'd have heard it, since we were higher in altitude than you. Humph!"

Wrathfully the giant woodsman glared at my five feet of girlish bravado, then turned his back in silent contempt, while the "maybe you saw a fox" of one of the boys caused a smothered monosyllabic ejaculation from under a bronzed beard, while the third stalwart bearer of a formidable looking Winchester said gruffly: "Guess we'd better put for the house." Obediently we fell into step; occasionally an incorrigible would mutter, "mebbe 'twas a lynx"—"er an

owl," "I guess it was a cat," and the lumbermen took longer strides to hurry their tormentors.

If it was a joke, we came out ahead; if it was the truth, as some of the hotel servants aver to this very day, we must ever be grateful to our escort. Be that as it may we certainly had great sport in the recitation of our trials and vicissitudes to the "elect" over our late supper.

The next day passed peacefully and our contemplated return to the half civilization of the ten miles' distant town was put off from hour to hour, each hating to leave the sequestered beauty spot. After a last delay for dinner our run-about was brought to the door and with last regretful goodbys, much tooting of our horn, and a college yell from the "left behinds," we started off on our trip through the woods toward the village from which we expected to make an early morning start on our long tour home.

Brother Tom skilfully hit an out-of-the-way stone and as I bounced half way to the balsam boughs queried: "Hey, Sis, sposen we meet the 'painter.'"

"Shut up," I responded cheerfully; "you know as well as I that there's not a 'critter' this side of the nearest circus."

Then because Tom's erratic driving over the rough ground caused my speech to be rather jerky to agree with a boarding school accent, I communed with myself for a while.

"For the good of your immortal soul, Tom," I cut in after a time, "do slow up till we're out of the woods; my internal organization is becoming deranged."

"'Fraid o' bo-ey constrictors," tersely responded that wretch.

I resigned myself to fate (and Tom's managing of it), inwardly thanking the "Powers that Be" that my teeth were sound. A gasp from Tom broke into

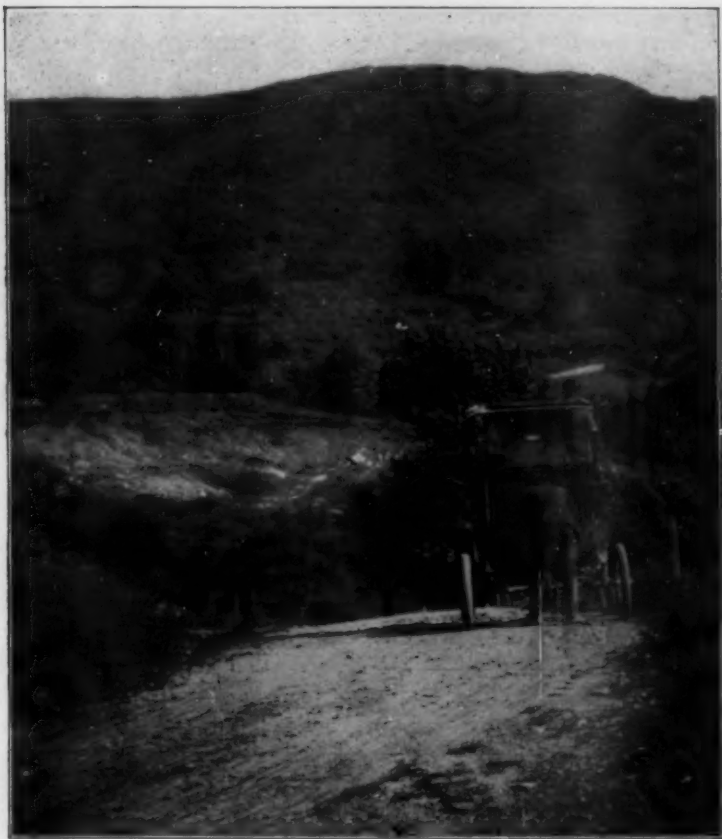
my meditation as he blurted "Geel! What's that thing?" Ahead of us about two hundred yards showing brightly in the light of our lamps was a shadowy quadruped of yellowish hue—as we came nearer it slunk into the bushes.

"Maybe it will be afraid of the car," said Tom as I crouched down and nestled closer to his athletic bigness. Fiercely he blew blast after blast on his horn, putting on full speed as he passed the accursed spot. Tightly he clung to the wheel and desperately I grasped the seat with one hand, keeping a firm hold on his college-bred biceps with the other. The car swayed and rocked as we crashed over the mountain road on our record trip. The breeze tore Tom's cap from his head roughly, and foolishly I wondered if he could buy another before starting on the morrow—would we start to-morrow or any other to-morrow?

We were near the edge of the woods now and a clearing proclaimed the reaching of an old farm house, when a report sounded the warning of a broken tire after our reckless drive. With an appropriate remark (delivered, however, in a foreign tongue), Tom slowed up and stopped near the house for the purpose of repairs.

I glanced fearfully over my shoulders just as a light streamed hospitably out of the farmhouse door and saw—imagine my face—a kindly old Scotch collic with bright yellow coat. With merrily wagging tail he trotted up to his master and laid at his feet—what do you think? Tom's auto cap. Helplessly I sank against the wheel, inadvertently, causing the horn to wake the echoes. At that dread sound the bristles of the dog arose, his tail hung low; snarlingly his white teeth came into view and he slunk around the house with his old terror.

To the horror of the farmer I hysterically alternated my wild mirth with real tears, while Tom rolled in apparent con-



"WE STARTED OFF ON OUR TRIP THROUGH THE WOODS——"

vulsions on the short turf. The amazement of the man and his frightened wife who evidently thought us escaped lunatics, set us off afresh when we had about recovered our usual tranquility. Oh how it hurts to laugh so! When he could speak Tom related our harrowing tale, and the hearty "haw-haw" of the man caused a new outbreak of our painful amusement—may I never have another attack!

The placing of a new tire being quickly done, and my nerve being strengthened by the partaking of rich milk and fresh cookies, we made a new start, pursued by the stentorian shout: "Look out for calves—ye might think 'em

ba'ars." I turned to wave my hand, but, seeing old Shep standing beside his master amiably wagging his tail, I relapsed into another convulsive peal of laughter, stopped only by a brotherly "Aw, cut it out!"—and so we passed out of sight with one more anecdote to relate on a future winter night over a wood fire.

#### Self-Igniting Motors Wanted

Coming right down to it, few things would tend to make the gasoline engine more of a practical success, so far, at least, as automobile use of it is concerned, than the absolute elimination of the use of electricity as the medium for

producing the desired explosions. For this reason many advanced students of the car's requirement look forward with confidence to the general employment of auto-ignition. The temperature to produce this must not be too high, or its advantage would be neutralized by the difficulty of cooling the engine. Experiments have showed that this method of ignition is very much more regular than where electricity is employed, because the compression heats the gas through the mass, and the mixture consequently fires immediately. Special precaution would have to be taken to cool the end of the cylinder were the electric spark done away with. The only difficulty with auto-ignition seems to be that the engine could not be started without the electric spark.

#### **When the Wanderer Came Back**

The wanderer had returned after many years, and was inquiring about his old friends.

"Brown," he said, "is in the wholesale clothing business, I believe."

"Wholesale clothing and motor garments," corrected the native. "The firm carries a side line of sundries, you know."

"And Jones has a grocery store, I'm told."

"Yes. Full line of groceries and gasoline. He's the Do Book agent for tourists' supplies."

"Smith went into the manufacturing business, didn't he?"

"Oh, yes. He got interested in a sewing-machine manufactory, and a little later his people took up automobiles and are doing a rushing business. I understand they have a capacity of over a hundred cars a week."

"And what's White doing?"

"He's the agent for a famous gun-maker, and is doing well. Sells all kinds of guns, pistols and auto supplies."

"And Johnson?"

"Oh, he's a manufacturing jeweler, and he turns out a mighty good acetylene lamp, too."

"Billings, I suppose, is still in the furniture business."

"Yes, but I understand that he turns out a better auto car body than he does desk or bureau."

The returned traveler began to betray some surprise.

"Is—is Wilson still in the livery business?" he asked with some hesitation.

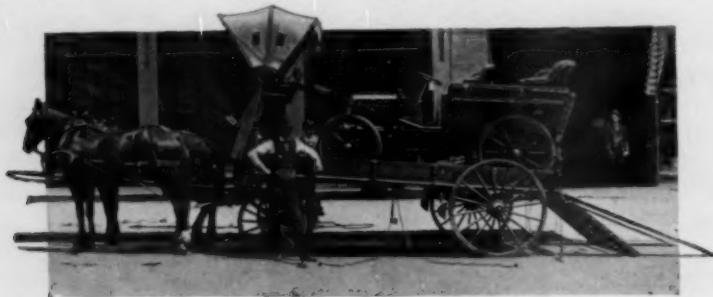
"Certainly, but he devotes most of his time to the demands of his garage and repair shop in the front of his stable."

"Ah, there goes old Bones, the sexton. The old fellow is——"

"Oh, he's agent for an automatic pump for inflating tires."

"Is there any one who isn't in the automobile business?" asked the returned traveler sadly.

"I don't think of any one just now," replied the native.





## The Bargain Mr. Smith Made With Mr. de Bon-Vivant

By Jane I. Parrot



THIS is a true story — nothing resembles fiction so much as reality—we will call the heroine Miss Smith and the hero Mr. de Bon-Vivant. Both were of undoubted aristocracy: she, of wealth; he, of lineage.

For four or five years Miss Smith had been one of the undisputed and indisputable beauties of Newport, where she spent the season regularly, when Mr. de Bon-Vivant, making a little tour of America, as is becoming more and more the custom among the European nobility—who knows what might happen?—visited the queen of seaside resorts. He immediately fell in love with the young girl. For a foreigner, the American girl has the piquancy of something strange and unknown, something daring and unexpected, which never fails to attract and hold him if to these intrinsic charms she adds the extrinsic one of a heavy purse.

Miss Smith did not experience an un-

conquerable desire for marriage but she had rather a weakness for Mr. de Bon-Vivant and marriage, and divorce being the only two extravagances in which she had not yet indulged, as she said, she decided on the first, the indispensable preliminary to the second. She had besides arrived at that fatal period in the life of an immensely wealthy young girl when the routine of familiar pleasures becomes wearisome and something new is an absolute necessity. Here was something new—marriage, marriage with an elegant French count, the bearer of a fine old name. Mr. de Bon-Vivant had manoeuvred skilfully on his part. Without making himself ridiculous he had given discreet proof of deep sentiment. Miss Smith had scarcely recovered from the utter distaste caused by three preceding flirtations in which the pretenders to her hand had treated her as something divine—woman adores being treated as a goddess provided she be permitted to descend to earth at will—and she became interested in Mr. de Bon-Vivant from the very fact of his being different from the others and allowed herself to pronounce the definite “yes.”

At Newport as elsewhere, however, the definite “yes” only holds good until

the next engagement but Mr. de Bon-Vivant succeeded in transforming what was possibly a passing caprice into a feeling of a deeper nature, and on Mr. Smith's formal refusal to give him his daughter's hand he frankly proposed to Mabel to kidnap her. Mabel, while not availing herself of the offer felt flattered by it. But she represented to her audacious lover that her father, excellent man though he was, had the fault of great obstinacy and if in marrying she forfeited his good will she would also forfeit her inheritance. She added that Mr. de Bon-Vivant's \$5,000 of income would be only just sufficient to pay her milliner's bill and important as was the rôle played by her hat in a woman's existence, even a very complete provision for this part of her toilet could with difficulty make up for the lack of other necessities of life. Mr. de Bon-Vivant was not at all discouraged by the force of this clear reasoning and Mabel had the pleasure of feeling convinced that her lover thought more of her than of her fortune and that, it must be confessed, was very praiseworthy in a gentleman of slender means, and exceedingly unusual as well.

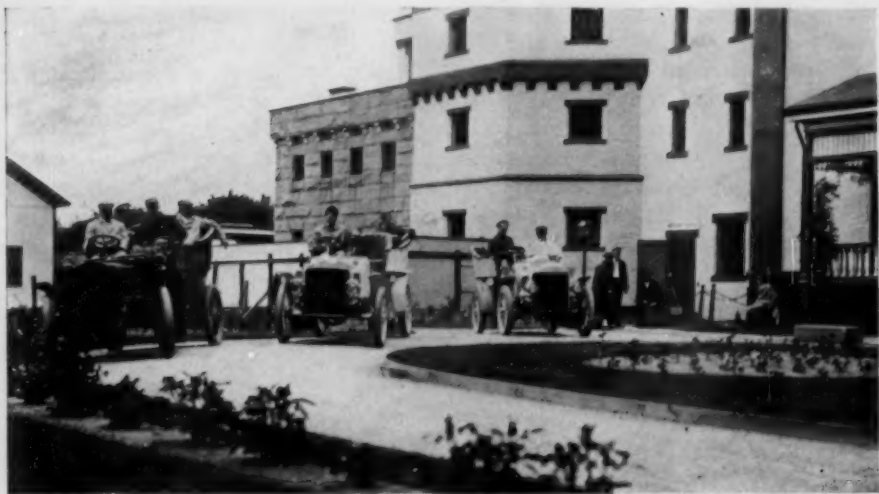
Mr. de Bon-Vivant was a cheerful companion. When matters did not go as he wished he did not wear himself to a shadow by giving way to despair and the ordinary appetite which he brought to his three daily meals did not suffer the least appreciable diminution, neither did he abandon himself to melancholy contemplation of the moon when she showed her full face to the inhabitants of this planet, plunging into the depths of his store of literature for appropriate quotations. Being a sanguine, healthy man, he considered the influence of the moon on man's affairs as most baneful and preferred to face the critical situation of the moment coolly and deliberately, summoning all his

good humor and all his mental resources to his aid.

So when Mr. Smith opposed his suit he passed in review before his mind all the means which seemed to him possible to vanquish this obstinate father. But he could hit on nothing, absolutely nothing, and time was passing. The Smiths would leave Newport in a week. In New York it would be much more difficult to find opportunities for meeting Mabel and Mr. de Bon-Vivant felt only a mild enthusiasm for that time-honored custom of seeking his fortune in the "Far West" while his fiancée awaited him at home. He maintained that love is best when one is young, and besides, if it should take him ten years to accumulate the pile of money exacted by her barbarous father he did not much relish the idea of leaving Mabel exposed to the temptations of this world for such a long period—he had that deplorable theory of the man of the present day: that woman is fickle and the young girl still more so.

It was decided after many interviews between the betrothed that a final attack should be made on Mr. Smith. Mabel opened the attack and was repulsed with great loss. Mr. de Bon-Vivant was not dismayed, however, and proceeded to make his assault. He contrived to meet Mr. Smith one evening on Bellevue avenue at the hour when that worthy and very methodical gentleman took his customary walk to hasten the process of a sometimes tardy digestion, and he coolly opened the question.

"If I understand you aright, sir," he said, "at our last conversation you did not refuse me your daughter's hand because my personality was displeasing to you or because the name of Bon-Vivant did not seem to you sufficiently honorable. My failure to meet with your approval is due to the inadequacy of my fortune. Will you then be good enough



POSED WITH THE SUGGESTIVE BACKGROUND OF A JAIL

to tell me what fortune I should have in order to become a possible candidate?"

"My dear sir," answered Mr. Smith, with his most amiable air, "you already know America well enough to have observed that every father with a marriageable daughter does not treat the candidates for her hand who are not to his liking, after the inconsiderate fashions described in our comic papers. You have seen that I have several times discussed your request amiably with you; I am infinitely honored by it, but I am going to tell you frankly why it is absolutely out of the question. Personally you are very sympathetic to me and I am persuaded that you would make an excellent husband, but you lack one quality which in my estimation is essential—perfectly indispensable: the ability to earn money. Even if you had a very great fortune, an enormous fortune indeed, it would not matter. I should still have the regret of being obliged to refuse your demand. Money is more easily lost than gained or than kept when gained. I might be ruined to-morrow, but that does not give me any concern. I could make another fortune. Can

you conscientiously say the same for yourself? I can only feel at ease in confiding my daughter's fate to some man capable of holding his own under any circumstances. Are you such a man? Do you consider yourself capable in a strange country whose language you can scarcely speak—you, accustomed to a life of luxury and idleness—do you consider that you are capable of applying yourself without repugnance to business and—the essential point—of making a success of it?"

Mr. Smith stopped abruptly. On becoming old he had also become stout and this long tirade and the exertion of walking left him breathless. He turned his eyes towards his companion to note the effect of his speech and was astonished to observe that Mr. de Bon-Vivant's face was simply radiant.

"That's the good of having an explanation!" exclaimed Mr. de Bon-Vivant gaily. "See how you have been mistaken in your opinion of me! I am exactly the man you want. In Paris I have the reputation of being the sort of chap who is always certain to come out right, and if I have not yet amassed

millions it is simply because I have had no motive for doing so. Now the motive exists and I am ready to earn the necessary millions. Put my ability to the test."

Mr. Smith looked at his companion out of the corner of his eye. Mr. de Bon-Vivant looked as usual except that there was possibly a little additional cheerfulness in his expression. "This young gentleman's tongue is too glib for me," thought Mr. Smith. "I shall not be able to shake him off without being very blunt, brutal even." Then in an easy, almost careless tone he said, "Very well, that is agreed. Give me your proofs. Let us see—there are still six days be-

time fixed for gaining it in the second place. I wish to play the game well. Let us not change the sum but the time in which it is to be made. On arriving in New York I will hand you \$10,000, honestly earned in the interval between now and then. And now my dear father-in-law, let us have done with these miserable questions of money." Mr. de Bon-Vivant slipped his arm gently under that of Mr. Smith and proceeded to talk of a thousand and one things with the air of a man of refinement whose mind is entirely at ease.

The day of the Smiths' departure had come. Mr., Mrs. and Miss Smith had left Newport early in the morning for

#### SOME DIPLOMATS WHO MOTOR



Swiss Minister, Mr. Leo Vogel



U. S. Senator Burkett, of Nebraska

fore we leave Newport. You are going like ourselves, I believe, to New York. I give you a month from the time of our arrival in the metropolis to make—come, help me—fix a figure yourself."

"No, no, my dear sir! Fix it yourself!" insisted Mr. de Bon-Vivant, still smiling.

"He might say anything for all it costs him," thought Mr. Smith. "Oh, well, let us put it at \$10,000, honestly earned, no speculating, gambling or betting. Does that suit you?"

"Perfectly, dear Mr. Smith. Only I think you are too reasonable as to the amount in the first place and as to the

Fall River. There they were to lunch with the Humphreys, the family of the big automobile manufacturer, then to leave in the afternoon for Providence, where they would find their yacht which had been undergoing some repairs at Bristol.

Mrs. Humphrey is good nature itself. No doubt because she has made the most prosaic marriage in the world she is always full of sympathy for anything with a trace of sentiment and if it had rested with her, celibacy in her circle would have been a thing utterly unknown. So, in order to do honor to the Smiths, she had gathered a number



NEW PERSIAN MINISTER TO THE UNITED STATES

of people together and among others, fortunately but quite by chance, de Bon-Vivant. As after all, people only parted to meet again; as Mrs. Humphrey was the most agreeable of hostesses; as nature was en fête and the luncheon all that could be wished, no one had the least reason to feel sad. Mr. de Bon-Vivant, always in good spirits, distinguished himself by his animation, and Mr. Smith, who had scarcely lost sight of him during the preceding six days and knew that it was simply impossible that he had augmented his capital by so much as fifty cents, thought that the young man took his defeat gayly.

Towards the end of the repast, Miss Merth, a tall, fair girl of lymphatic appearance, well known for her dreamy and melancholy turn of mind, remarked to Mrs. Humphrey: "How I regret that Mr. Humphrey is not here! He would have told us the motor-matchmaker's newest methods. He is such a capital raconteur!" Some of those present were quite ignorant of what the auto-matchmaker might be, so Mrs. Humphrey had

to take up the tale in the name of her absent husband.

The motor car in question was one of four or five cars which Mr. Humphrey put at the disposal of his numerous guests during the summer, and it already had six marriages to its credit. No one knew why this particular car was the one always chosen by young couples who had arrived at a critical period in their flirtations, but all those who had favored it with their patronage had seen their love crowned with success. Mr. Humphrey pretended that the car referred to was specially favored by the god Hymen. His wife, more sceptical in spite of her good will in these matters, attributed the car's power in matrimonial affairs to the fact that it was particularly comfortable, of perfect construction and great speed, though so easily controlled as to almost run itself. "You understand," said the excellent woman, "that the mind and the hands being less occupied in attending to the car have more leisure and facility to . . . at-

tend to their own affairs." Young and old laughed heartily at this sally, and they good naturedly teased Mr. Smith and Mr. de Bon-Vivant when Mrs. Humphrey informed them that they were both to go to Providence in the motor-matchmaker. There were but two cars available, the famous matchmaker with two seats and another four seated one in which were Mrs. and Miss Smith, Mrs. Humphrey, who would rejoin her husband at Providence, and the chauffeur. Mr. Smith, who had reluctantly refused a cigar after luncheon, blessed Providence for putting him under the wing of Mr. de Bon-Vivant, an inveterate smoker as well as a proficient chauffeur.

They were the first to start. Mr. de Bon-Vivant in passing the post office begged his companion to excuse him a moment. He entered the office, but returned immediately.

They had not gone half a mile outside the town when Mr. Smith, in his most indifferent tone, said: "Do you

. . . not think . . . we . . . rather fast? . . . You know . . . speed regu . . . lation . . . very . . . rigorous here." The rate at which they were going made more connected speech almost impossible.

"I know, I know," reached Mr. Smith's ear, which was almost deafened by the wind; "but I am sure of my hand. Besides this is only the beginning—I'm merely getting the hang of the machine. It responds admirably. . . ." Mr. Smith's hands seized his hat, and at least one of them never left it thereafter. The car went bounding along as if it had wings. "Distracting!" grasped Mr. Smith, whose cigar had long since blown away. "Have you lost control?"

"No, no, there's no danger. All right, all right," insisted Mr. de Bon-Vivant, who was almost as fond as a native of these two words which he had been forced to learn at the beginning of his instruction in English in the United States.

The younger man's face wore an ex-



CHINESE MINISTER, SON AND SECRETARIES



COSTA RICAN MINISTER AND FAMILY

pression not usual to it. He was a trifle pale and his somewhat drawn features had a tense expression of energy and determination, particularly evident in the tightly set lower jaw.

The speed was constantly becoming greater. The trees seemed doubled—crowded against one another as seen in a cinematograph.

"Are you crazy, de Bon-Vivant?" came in an anxious voice from Mr. Smith. "Are you going to kill us? Certainly this is not safe."

"Never mind," answered de Bon-Vivant slightly ironically, while his voice seemed to come from afar off. "This is scarcely forty miles an hour. I am going to show you fifty-five or sixty presently." The car no longer rolled along. The road being undulating, the car simply leaped from one rise in the ground to the next, skimming over the hollows intervening. De Bon-Vivant, his hands on the wheel, his body bent slightly forward, the visor of his cap pulled over his eyes, scanned the route before them with an eye alert for obstacles. It had

rained a little the night before, so there was no dust on the road, which was a favorable condition for an extra-rapid pace.

"Mr. Smith," said de Bon-Vivant plainly, "are you really willing to give me your daughter's hand if I fulfil the condition which you have imposed on me?"

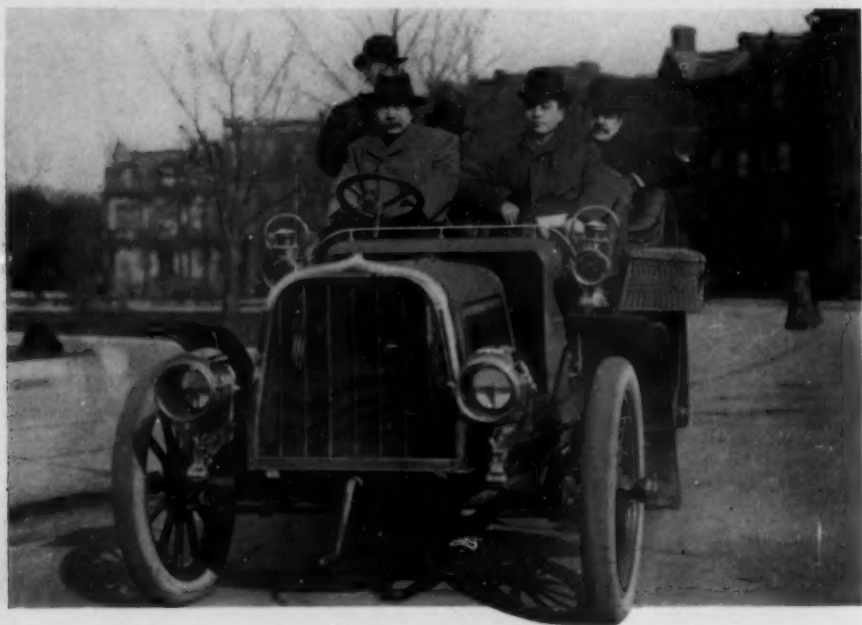
"I am a man of my word, sir, but I believe that I have to deal with a mad man and that my daughter will no more have you for a husband than she will have me for a father, for you are going to crush us both to powder. This is unworthy of you, sir. . . . A trap, sir! But I know well how to prevent you . . . ."

He made a movement as if to get up and take control of the car. De Bon-Vivant threw in the high speed and the big car shot forward like a ball from the mouth of a cannon. Mr. Smith was thrown back on the seat and the violence of the shock would have hurled him into the road if the alert Frenchman had not caught him with his left

hand. At the same moment there was a slight hissing sound in the wake of the car. It was Mr. Smith's straw hat which had gone to rejoin his cigar.

From that time on Mr. Smith lost all desire for personal action. He clung firmly to the edge of the seat and turned sideways, for the rush of wind took his breath away. He fancied that they passed some vehicles, but he was not at all sure that they did—some black specks merely flashed before his eyes.

It went through the city without obstruction, and the pace insensibly became still more furious. Mr. Smith has since confessed that between Bristol and Warren he lost all idea of the motion in which his body was participating. Sinking as low as possible on the cushioned seat, his short legs braced solidly against the front of the car, he now concentrated his whole attention on *de Bon-Vivant*, the inspection of outside affairs being no longer possible for him. His



MR. TAKAHIRA, JAPANESE MINISTER

The pace moderated a little and this permitted them to observe that houses had taken the place of trees on both sides. "The horn!" cried Smith. "The horn! blow! blow all the time!" Fortunately for the inhabitants of Bristol the machine had a horn powerful enough to have served the Angel Gabriel. The road at the entrance to the little Rhode Island city was straight, however, and the enormous machine flying along like a mad thing had been seen from a dis-

anger for an act which he deemed indescribable was not dissipated, but it was beginning to wear off, if one may so express it. All his faculties were centered in the man who held his fate in his hands. Was he a lunatic, or did the Frenchman wish to force him through fear to give him his daughter's hand? At this idea he set his jaw in the intensity of his savage obstinacy, quite decided to perish rather than yield.

*De Bon-Vivant*, however, had not the



U. S. SENATORS BEVERIDGE, OF INDIANA, AND HOPKINS, OF ILLINOIS

air of a madman. He was a trifle paler than he was wont to be, but otherwise his whole appearance breathed intelligent will. Several times Mr. Smith had seen him throw a rapid glance at the big clock set just above the lubricators of the vehicle. Putting two and two together he suspected that the nobleman wished to make the trip in a certain time and unconsciously Smith, too, began to watch the progress of the clock-hands over the dial. The instinct of combativeness which is latent in the heart of every American began to overpower the instinct of self-preservation. Evidently de Bon-Vivant was trying to break some record. This was becoming interesting.

They slackened the pace again a little in passing Warren, but as time was flying still more rapidly than the car, de Bon-Vivant once more put her on the top speed.

And now the pace was a perfectly frightful one. The machine roared with

a deafening noise. It seemed to proceed solely by a series of gigantic bounds; it no longer ran, it no longer flew; it leaped like a huge beast galloping, clearing the bridges like a flash. Suddenly a terrible shock threw Mr. Smith still deeper into the seat. "What is that?" he asked when it was possible for him to speak at last. He heard the calm, slightly mocking voice of his companion: "Nothing, just an ox!" And then, after a moment's silence, "unless it is a cow, indeed!"

Mr. Smith experienced the sensation of passing over a long bridge as he heard the heavy structure tremble and groan under him, and when the car stopped almost abruptly at the Providence end of the bridge, the improvised and involuntary breaker of records thought he must be waking from a dream.

Still very correct in appearance in spite of the cloak of fine white dust which enveloped him from head to foot, de Bon-Vivant jumped lightly to the ground and, cap in hand, advanced

smilingly to a group of men who were stationed at the extremity of the bridge and who welcomed him warmly. One of them drew forth a pocketbook, took a small folded paper from it and handed it to de Bon-Vivant as he shook him cordially by the hand. The intrepid chauffeur returned to the car where Mr. Smith, standing up at last, was in the act of rubbing his eyes, surprised to see the outer world stand still once more, and, putting the paper in his hand, "My \$10,000, my dear father-in-law!"

Everything was easily explained. Mr. Humphrey, the richest of automobile manufacturers, had offered \$10,000 to the chauffeur who would make the trip from Fall River to Providence in twenty minutes with one of his machines in order to lower the record of twenty-two minutes held by a rival manufacturer. Mr. de Bon-Vivant had proposed to establish a new record and Mr. Humphrey had accepted his offer. He did not know to be sure, that his old friend Smith, in spite of his age and his position as mar-

ried man and father of a family, would accompany the French gentleman on this adventurous expedition. When before starting de Bon-Vivant had entered the post office it had been to have recorded by two time-keepers there the exact moment of his departure.

Mr. Smith took the affair good naturedly. Holding out his hand to de Bon-Vivant, "I am a man of my word. I agreed to it. You have gained, but I have not lost. I have just seen you at work. You have nerve. If you hold the helm of your matrimonial bark as firmly as you did the wheel of this automobile, all will go well."

When later on board the yacht they rejoined Mrs. and Miss Smith and good Mrs. Humphrey, Mr. Smith, tapping Mr. de Bon-Vivant on the shoulder, said simply: "Ladies, I have just broken a record and . . . gained a son-in-law."

Everyone was a little uncomfortable, and excellent Mrs. Humphrey, usurping the role of Mrs. Smith, whose emotions



BARON HENGELMULLER, AUSTRIAN EMBASSADOR, AND FAMILY



SENATOR DEPEW AND WIFE

were less expansive, had tears in here eyes. She looked at the two young people with a tender air and, pushing the count toward his fiancée, "Come, kiss one another now since the motor-matchmaker has once again so well done its duty."

Miss Smith, in spite of her assurance, was also slightly embarrassed and, to explain her blushes, and also because she was one of the wits of Newport, exclaimed: "Oh! Mrs. Humphrey! Now that it is sanctioned it seems to me almost immoral!"

#### After Togo Had Finished

"Hello!"

"Hello!"

"Is this Dontgiveadarnovitch's garage and repair establishment?"

"Yes, sir."

"Is the boss in?"

"Yep; and nobody else. All the workmen are out parad——"

"Yes; I understand. This is——"

"Yes?"

"This is his Stampeded Majesty the Czar."

"Yes! What's the matter? Pipes froze up and your feet getting cold?"

"Well, I've got cold feet all right, but not because of the pipes. It was another matter I wanted to speak about."

"Hurry up, then; I'm chargin' you for this at the rate of \$1.50 an hour."

"Certainly. I wanted to know if you would be needing a boy soon."

"I might, especially if the game keeps up as good as it is now. But why do you ask?"

"Well, you know I have a son, Mr. Dontgiveadarnovitch?"

"Yes."

"Well, it doesn't look as if there would be much doing for the next few centuries in the line of plain and fancy czaring or czarevitching, and I thought I might put him at some business in which he could still be a tyrant and wield absolute sway over his fellow men. Of course, it would be a great wrench to his parents, but——"

"Send him around right away."

"Thanks. Good-by."

"Good-by."

#### **If All Noise Was Eliminated**

Car manufacturers and inventors can find no more profitable field for their endeavors to improve the automobile than the elimination of all unnecessary noise from the car's progress, since the silent car is the one that appeals to buyers, and the one to which the motorphobes themselves raise the least objection. On the other hand, it is quite easy to imagine that if all cars were absolutely silent in their progress serious complaint would be made as to their danger. To meet both requirements perhaps it would be a good arrangement if all cars which were really quiet had some device which would enable the exhaust to be made audible at will when driving in crowded streets, or along winding country roads at night. At these times a little noise is advantageous. This could easily be arranged by means of two mufflers—the two combined would make the engine perfectly quiet, while one only would leave the beat distinctly audible.

#### **Driving on the Road**

When on the road the first care of every driver should be consideration for other users of the highway. The law, of course, cannot guide one in every event of the many which may befall every day, but it is the duty of the motorist, from every point of view as owning the handier and the faster vehicle, to make allowance for those not so fortunately situated. In fact, if the rule of the road at sea be kept in mind and applied to the highway, it will be found a very fair method of ascertaining what one ought to do in each case, and how to meet difficulties. The rule of the road at sea ordains that the stronger must look out for the weaker, and that the

greater the command of speed possessed by a vessel the more responsible is it in case of accident. Let this simple idea dominate the mind while driving, and whether the strict letter of the law may be complied with or not, a judge or jury will in most cases appreciate you acted for the best, even should an accident occur.

#### **Sparks, Explosions and Combustion**

Ignition has a greater influence upon the efficiency of the engine than most users of explosive motors recognize. Two interesting conclusions resulting from some exhaustive tests recently made in France were that when the mixture had an excess of air the power increased with an advance of ignition, but when the mixture had an excess of gasoline vapor the power decreased with an advance of ignition, in which latter case it was found advisable to raise the potential to six volts. The experimenters declared that the time had come for a decision as to whether the motor was an explosion or rapid combustion engine. In some experiments they carried out they had taken two plugs; one of them they pointed, and the other they rounded off to present the largest surface possible, so that in the former case they got a thin spark, and in the other a good "fat" spark. With the pointed plug they could not get the engine to run, while with the other it developed its full power. According to experimenters this proved that the gasoline engine was an explosion motor and not a combustion engine.

#### **Thought**

"But you can't make a machine that will think."

"No," replied the inventor, "and I wouldn't if I could—if I thought it would think as some people do who imagine they know all about an automobile the minute they see one."



## How the Engine Talks

By "The Repairman"

**T**O the experienced man the gas engine has a language of its own which the man who runs it must at all times understand. If he cannot do this, then his experiences with the engine are going to be varied, but they won't be pleasant. When the engine is right and is in consequence of being so, doing what is right, the only sounds it emits are such as are made up from the clicking of the valves, the inhalation of the air and the exhaust. When the usual sounds are well understood, any unusual ones will be promptly noticed and their cause located and removed. The trained ear is probably a better trouble detector than the eye. The best way to become acquainted with the natural sounds is to first operate or run the engine for a time, say from a half to one hour, free; without a load.

It will be noticed that under no load, besides driving itself, if it is a hit-and-miss governor engine, it will produce an inhalation sound followed immediately by a loud exhaust report. If the governor is the least bit off or sluggish a second or third of this pair of sounds may follow in quick succession. But usually the first is followed by an intermission, which is made up of a series of suction sounds at the end of the exhaust pipe if the governor serves to hold up the exhaust valve when no impulse is needed. These suction or blowing sounds are due to the inhalation and expulsion of the air through the exhaust

pipe, at each movement of the piston, so long as the governor holds up the exhaust valve. The moment this valve is released a loud suction or inhalation sound is again heard at the mouth of the receiving pipe followed immediately by the loud report at the end of the exhaust pipe, which pair of sounds is the result of taking into and igniting the charge within the cylinder and exhausting the burnt gases under the pressure that remains in the cylinder at the time the exhaust valve opens.

Now, if the inhalation sound at the receiving pipe is heard and the loud exhaust report does not follow, the operator knows at once that the charge taken during the inhalation was not ignited or exploded. He knows there is a natural sound missing which signifies an abnormal condition. He reasons, if the charge isn't exploded, why not? Did the gasoline fail to get into the air current in sufficient quantity to make the proper mixture? or did it overcharge the air? or was the mixture right and did the battery fail to make a spark? or if proper mixture and spark were both present is there a leak of sufficient gravity through the valve or around the piston, by the packing rings, to allow practically all of the charge to escape before the spark is made?

The absence of a natural sound production will often point out an abnormal condition as readily as the presence of an unnatural one will. A careful operator

notices all of these things. None of them escapes his ears so long as he is within hearing distance of his engine. To him the absence of one natural sound is the letter that misspells the two words successful operation, consequently the importance of being able to detect the absence of the natural sounds. To know them is the only sure way to notice their absence.

The frequency of the exhaust reports increase as the engine is put under a load. And the heavier the load the more frequent the reports, until a full load is reached. A trained operator can be a way across the country and within hearing distance of his engine, or rather the exhaust reports of it, and be able to say that the engine is running well and easily carrying its load, or that its load is too heavy, or that there is something wrong with it.

Now, one of the common expressions of discontent the engine makes is pounding in the cylinder; and this usually occurs when the engine is under a heavy load. The interior of the cylinder gets so hot that some burnt carbon or projecting point of iron becomes heated to the igniting point. This in connection with the heat generated by the compression pressure ignites the charge before the piston has completed its compression stroke. The result is a sudden

conflict between the explosive and compression forces. This sudden collision of forces causes a heavy pound in the cylinder. A loose flywheel causes a thump, usually at every impulse the engine takes. Looseness at the wrist box causes a knock. A loose crosshead box usually causes a clatter. A knock once located around the connecting rod may be due to either the crosshead or wrist boxes being adjusted too tightly. One may be so tight as to lift and depress the other end at each revolution. After a knock or clatter at the crosshead or wrist bearing may be cured by simply loosening up the bearing or box at the other end of the connecting rod from that where the knock is located.

A flywheel loose on the shaft sometimes makes a rubbing sound, caused by some part of the circumference of the rim of the wheel rubbing at each revolution against some object near the engine. There is a barking or coughing noise at times from the cylinder, due to escape of the explosive force past the piston rings. This seldom occurs unless rings are badly worn or poorly fitted to the piston. Sometimes gummy oil will cause rings to stick in their grooves. A blowing noise just in advance of the exhaust report at the mouth of the exhaust pipe indicates a leak at the exhaust valve.





## Beware of Conjunctivitis

*B. George Brauchfuss, M.D.*

**D**ON'T be too hasty in condemning the goggle wearer. None will deny that there never was anything homelier, but perhaps after all there is wisdom in the disfigurement. Conjunctivitis is not only insidious in attacks, but direful in its results, and the motor car user is particularly prone to this disease.

Conjunctivitis, be it known, is an inflammation of the conjunctiva, or the mucous membrane that covers the external surface of the eyeball and the internal surface of the eyelids. In the last year I have seen several cases of conjunctivitis, acute and chronic, which could be attributed to no other cause than that of rapid riding in open automobiles, with the eyes unprotected by glasses or otherwise. The inflammation is essentially a traumatic conjunctivitis, due to friction of the wind against the sensitive covering of the eye, and to chilling of the eyeball. I also wish to call attention to the danger from fast automobiling of lighting up anew old or chronic inflammations of the deeper structures of the eyes, in order that patients known to have such diseases of the eye may be warned against such danger.

The chronic conjunctivitis caused by fast riding in open automobiles is characterized—first, by the inflammation being confined almost wholly to the bulbar

or ocular conjunctiva, while the palpebral conjunctiva is but little affected. The superficial and deep vessels of the ocular conjunctiva, and even the subconjunctival vessels are enlarged, and much more tortuous than in the normal eye. Especially noteworthy in these cases is the number of the deeper blood vessels affected, and herein lies the second distinction of this affection from the ordinary form of chronic conjunctivitis. Moreover, in this deeper congestion of the ocular conjunctiva, due to chilling of the globe from fast progress through the air, lies the danger of inciting inflammation in the deeper structures of the eyes, especially if these structures are already the seat of a chronic disease. The third characteristic symptom of this disease is a clearer and more watery discharge than in the ordinary form of chronic conjunctivitis. The eyes are suffused in tears, with little or no mucus intermixed. The indications for treatment are simple. First, removal of the cause; prohibit the patients from riding in open automobiles, or, if they do ride in them, have the eyes well protected by a close-fitting pair of goggles. Simple as the above indications are, it is not so easy to have them carried out as it would seem, because, by a strange perversion of human nature, people, when riding in open auto-

mobiles, like to go much more rapidly than when in closed vehicles, and often with the eyes unprotected. This holds particularly in the case of women, who do not wish to wear unbecoming goggles. The local treatment consists in the application of cold compresses to the eyes for fifteen minutes at a time, three or four times a day, and the application of mild astringent washes by means of an eye cup twice a day. In cases where latent and chronic inflammations in the deeper tissues of the eyes have been made active, riding in the open is to be strictly prohibited, active use of the eyes for close work discontinued, and appropriate treatment instituted after examination by an oculist.

#### Combustion

The object in mixing air with gasoline vapor is to obtain enough oxygen to cause complete combustion to take place. All oils may be ignited and burned at the proper temperature, if a sufficiently high one is produced so that air can circulate and mix with vapor. At certain temperatures such oils give off inflammable vapors and at a higher point may be ignited themselves. The first temperature is called the flash point, the second the fire point. If the air supply is cut off, neither the vapor nor the liquid can be ignited. Again, if too much air is present, the mixture cannot be exploded.

In a gas engine cylinder, it is necessary to know how much air must be admitted. The most efficient proportions of air and gas, mixed to give good combustion, using average gasoline, is from 6 to 1 to 10 to 1, according to the weather and engine conditions. The vapor is the chief agent of efficiency, the conditions necessary to explosion being furnished by the air. Increasing the proportion of air up to the specified limit, increases the total efficiency.

In addition to the irregularities of action, the presence of burned gases in the combustion chamber reduces both the pressure and temperature of the explosion by several per cent. A scavenging or four-cycle engine should be theoretically the most efficient, as it secures the best ignition of the charge and has less loss of heat in proportion to the total units generated than the two-cycle non-scavenging stroke engine. This is one of the principal reasons why the four-cycle engine has found so much favor with motor-car designers, the other being adaptable to run at high speeds and still ignite well, giving a light engine for power produced.

Clearing the cylinder by using a blast of fresh air furnished by a small pump connected to the engine has been accomplished by foreign engineers. But although the results were very satisfactory, the system never came into general use owing to the increased number of valves and working parts. To get good combustion you must also have good compression, and the mixture must be the same, no matter what the speed of the engine is, and it is this latter point that modern carbureters are designed for.

#### Bad Arrangement

"Things never seem properly adjusted in this world," said the young man who was enviously looking at a luckier man's big touring car."

"For instance?"

"I have observed time and again that the people with the most expensive tastes almost invariably have the least money to meet them."

#### Pessimism

Greene.—If wishes were horses, you know, beggars might ride.

Gray.—And be run away with the moment the first motor car comes in sight.



## An Appropriation and an Interruption

*By Frank M. Bicknell*

**N**OW what do you intend doing with that?" asked Thayer, looking at the fragment of brick his companion picked up on the crossing. "Are you going to tie it to your neck and try to drown yourself like a superfluous kitten?"

"Not heavy enough, and I'm too good a swimmer," Bascom answered, in a tone that sounded morosely regretful.

The two young men were temporary companions in misfortune. They had been turned adrift upon the street at the early hour of 11.20 P. M., forced out of a "quiet game" at the club by the adverse fate that had reduced their cash assets to zero. Thayer had accepted the situation philosophically, but Bascom—perhaps because he had drank more than was prudent—showed an inclination toward ill-temper.

"I've been most kinds of an idiot in my life," he declared, as they turned into Broadway, "but never till now have I been brought to the pass of getting myself into jail merely for the sake of securing a free lodging and breakfast."

"What species of folly are you meditating?" Thayer demanded uneasily. Bascom was scarcely more than a casual acquaintance, and he did not know what enormity he might be capable of.

Bascom poised the piece of refuse

building material in his hand. "Watch me while I show you a new way of breaking and entering a bank—by proxy," he said. "Ye who have legs to run with prepare to use them now."

"Here, you lunatic! what in——" But the restraining hand had been put forth too late to prevent the half-brick from crashing through the plate-glass window; nothing was left for Thayer but to anathematize his half-tipsy companion, and put to use the more than tolerable locomotive facilities at his own command.

Bascom, inconsistently enough, instead of awaiting the arrest he had planned for, made a precipitate dash into the street and led two policemen, joined by a small army of eager volunteers, a lively chase into the vista of the distance and entirely out of this story. Thayer, on his part, turned abruptly down-townward, reached the point where the avenue crossed Broadway, dived under an elevated railway stairway, continued on the farther side for the distance of a block, then doubled back through a side street till he merged again in Broadway. He, too, soon acquired a numerous following, which, his wind and legs being sound, did not tend to diminish the fleetness that made good the comfortable lead he had managed to

gain. Yet though he reached Broadway well in advance of the yelping pack, he was obliged, on coming to a corner, to change his course to avoid the yearning embrace of a gigantic patrolman who was stationed there. He ran half a block down-town, then saw two more policemen directly in his path. At this critical moment he caught sight of an automobile cab standing next the sidewalk. There was no one near it—the driver's absence being accounted for, perhaps, by the proximity of a corner saloon.

It was Thayer's last chance and he seized it. Jumping to the seat of the vehicle at a bound, he pressed forward the starting lever with his left hand, grasping at the same moment the handle of the steering gear in his right. He slid across Broadway between two cars, both headed toward him, causing violent bursts of profanity and a frantic twisting of brakes on the part of the motorists; he barely escaped knocking over a feeble old woman who was creeping along the cross-walk at a snail's pace; and he evoked various angrily sarcastic queries as to where he thought he was going, what he was trying to do, who in *blank* he was, and where in *blank* he was going, from other pedestrians and drivers whom he treated to the sensation of being very nearly run over or into. At last, hoping he had distanced pursuit, he slackened speed, intending to round the next corner and get into a street less busy than the city's main thoroughfare. Before he could turn, however, a quite unforeseen contingency arose—he was hailed imperiously by a would-be fare.

Though he could have desired nothing less than to be called on to take in passengers, a glance at the couple standing at the curb caressed him to smother a gasp of surprise, and stop obediently. When the man had helped

his companion in he stepped forward beside the box and whispered:

"Drive to the house of the nearest Protestant clergyman, my good fellow, but don't drive too fast—do you understand?"

"Right, guv'nor," Thayer mumbled, and his patron, little dreaming that the closely buttoned coat upon the box covered an evening outfit as correct as his own, got into the hansom. The amateur driver started his vehicle onward, scowling, and muttering to himself something in this wise: "I've lost her, but, by Jove! he sha'n't have her—at least not until I have done what I can to block his game. She's not yet fully persuaded, or he'd have ordered me to drive like the deuce. There's many a slip 'twixt cup and lip, my fine fellow; just watch while I show you one."

Rapidly arranging a plan—the best he could think of on the spur of the moment—Thayer drove to the nearest drug-store, where he stopped. "I'll have to run in here, boss, and look up that parson's address," he explained to his fare on descending. He had taken care to leave the cab in such a position that its occupants could not observe his movements inside the druggist's, where, instead of consulting a directory, he went straight into the public telephone closet and called for the number of a certain Dr. George Fisher.

"Halloa! this is Melville Thayer," he announced hurriedly when the connection was established. "Doctor, I wish to beg of you to do me a great favor—will you?"

"Anything within reason, of course, Mel," came the ready response.

"Well, but this is rather beyond reason, I fear. You once told me, I think, that when you were in college you had a passing notion of studying for the ministry instead of medicine. What I'd like to have you do is to im-



MR. H. RIDER HAGGARD, DAUGHTER, AND SECRETARY, IN FRONT OF THE CAPITOL IN WASHINGTON

personate a doctor of divinity for a short time—in a good cause——”

“H’m! that is going pretty far, even to oblige so good a friend as you. It’s a kind of pious fraud I hardly like to perpetrate.”

“Don’t refuse me, Doctor, please. Let me explain a little—I haven’t time to go far into particulars. I have in a cab here a young couple who seem bent on getting married, and——”

“Great Scott! Mel, I couldn’t possibly——”

“Hear me out. I don’t expect you to help along their marriage, but, on the contrary, to hinder it—to block it entirely. The girl is Miriam Prescott, daughter of the Chicago millionaire, and the man is Arthur Hedgerley, the Englishman who cut such a wide swath at Newport this summer. She thinks he is heir to an earldom, but he isn’t, and if she knew the truth she wouldn’t look at him twice, I’m sure. Now if I dump him at your door will you keep him busy a few minutes, making such

inquiries as a minister would be likely to make of a man who was trying to run away with an heiress, while I tell Miriam a short, true story and try to reason her out of her folly—will you?”

“Oh, y-e-s,” finally consented Dr. Fisher, and Thayer, drawing a breath of relief, went back to the cab.

Having traversed a distance of some four blocks, he halted in one of the cross streets before a house that showed no light other than a rather dim one in the front hall.

“Here you are, boss,” he said, leaning down to speak to Hedgerley. “If he ain’t at home, or has gone to bed there’s another one of ’em close by. Ask for Dr. Strong.”

The Englishman got out and went up the steps. The door was opened without delay, and, after a short colloquy with the servant, he stepped in. The instant he disappeared Thayer, who had already slipped from his place on the off side, approached the door next the street and said, in a rapid whisper:

"Miriam! don't scream! it's Melville Thayer. I have something of the greatest importance to say to you."

"Good gracious, Mel—Mr. Thayer!" the startled girl exclaimed, very nearly disobeying his injunction, "how came you here?"

"No matter about that," he continued hurriedly; "there's no time to waste in unnecessary explanations. Let me beg you not to marry that man till you've heard what I have to tell you."

"Mr. Thayer!" she cried, in haughty displeasure, "you are—you are taking an unwarrantable liberty, and I must request that——"

"Now don't allow yourself to do anything rash, Miriam," he interposed firmly. "I have the very best of reasons for urging you to delay a little. I must have a talk with you, and it must be at once." He stooped so as to look through the vehicle at the door that had closed upon the Honorable Arthur Hedgerley, and was glad to note that it still remained closed. "Fifteen, ten, five minutes if you are unwilling to spare more," he pleaded, "only hear me."

"I don't see why you should come here interfering with my—with my arrangements in this rude way," the girl said resentfully.

"Believe me, Miriam," he returned, with all the earnest persuasiveness he could put into his tone, "I do it wholly in your interest. Come, will you not let me take you somewhere where we can talk undisturbed—to that druggist's place we've just left—and after you've listened to me you'll still have the privilege of doing exactly as you please. Come, do!"

He opened the door and put in his hand, but, though evidently influenced by his appeal, she was not yet quite ready to yield to it.

"I can't go away and—leave *him* in this fashion," she objected.

"I'll come back and explain as soon as I have taken you beyond his immediate reach," he promised. "He won't be so mortally offended as to give you up; you needn't worry on that score."

"What do you mean by that?" she demanded. Evidently his tone nettled her. "I should hope Mr. Hedgerley's affection for me would be proof against——"

"It would, to be sure it would," he broke in, cutting her off and again glancing at the front door nervously; "he has the most potent reasons for wishing to make you his wife; not only your personal charms, but your financial ones are to be counted——"

"Stop! I don't like your insinuations; they're in the worst possible taste."

"Pardon me, they are, and yet I am prepared to prove any accusations I may bring against him—if only you will consent to come and listen. Your whole future happiness may depend upon it, Miriam, and——"

"Oh, I'll come since you insist," she finally consented, still half rebellious, though plainly moved by his earnestness; and, without accepting his offer of aid, she stepped from the cab.

"Couldn't you have divulged your great secret where we were just as well?" she asked complainingly, as they walked toward the corner.

"We might have been interrupted, and it wouldn't have been so convincing either; I wish to show it to you in black and white," he said, and neither spoke again till they were standing before the druggist's lighted windows. Here Thayer took from his pocket an envelope bearing a foreign stamp and postmark.

"You know Charlie Sumner and will recognize his handwriting?" he remarked, half-questioningly.

"Yes, I knew him once, and have seen his handwriting—several times,"



SEVEN OF THE CLEVELAND BEAUX AND BELLES WHO RECENTLY WENT THROUGH A QUADRILLE WITH BAKER ELECTRICS FOR SWEET CHARITY'S SAKE

she answered demurely. Six months earlier Sumner had been one of the heiress' most ardent admirers, and as his actual wealth nearly equaled her expectations, it could not have been as a fortune-hunter that she had finally "turned him down." Thayer had foolishly supposed his own superior attractions had counted for something—until the all-conquering Hedgerley's advent.

"I found this at the club to-night; it came just in time, for he has something to say that may interest you," Thayer went on. "You remember he went abroad after—well, he's been in England five months, and has had the best opportunities to know positively what he's talking about. I wish you would read this page while I go and make my apologies to your—hem—to your friend."

Taking rather disdainfully the sheet extended to her, Miriam Prescott read by the light from the drug-store windows, the following extract from Sumner's letter:

"Yes, I know something about the man Hedgerley who, you tell me, is being made a little tin god of in New York society just now. He really is the son of a lord, and lineally descended from one of those ancient ruffians who came over with the Conqueror, but he's by no means the direct heir to his father's title—as he is willing to have it supposed. He is the youngest of six brothers, four of whom are married and have families. I think there are as many as a round dozen healthy lives between the Honorable Artie and the earldom, so it is hardly within human probability that he ever will need to be measured for a coronet. According to one of his extremely candid brothers, with whom I happen to be rather intimate, he's a pretty bad egg. He has been trying hard to marry a fortune ever since he came of age. He was engaged to a South African millionaire's daughter, but broke the match—and incidentally the poor girl's heart—because the old gentleman met his ruin in

the Boer war. He was the direct cause of a particularly sad divorce affair, has been kicked out of three clubs for card-sharpping, isn't tolerated under his own father's roof, and positively is not received in any respectable London house."

Meantime, while the young lady was digesting this unpalatable information, Thayer had walked back toward the residence of the alleged "Doctor Strong." As he was drawing near the block in which the house stood he beheld that which caused him to efface himself behind a convenient tree as suddenly and completely as possible. Hedgerley had come down the steps just in time to meet an extremely inquisitive gentleman in a stovepipe hat and a long overcoat with nickel buttons, who was accompanied by a certainly not incurious police officer. They had accosted the Englishman and were having an altercation in which evidently he was getting worsted. When the actual state of the case dawned on Thayer, who was near enough to hear a part of the conversation, he whistled softly to himself and took even greater care than before to keep entirely out of sight.

"I tell ye he's the guy that done it," the cab-driver was assuring the policeman vehemently; "I guess I know. Light mustash, opry hat, cape overcoat an' lots o' shirt-front—why, I'd 'a' recognized him anywheres."

The unfortunate Briton protested vigorously, and Thayer, seeing how vain his protests were likely to be, grinned wickedly. A somewhat close general resemblance between the two men, the similarity of their dress, and above all the damning fact of Hedgerley's being found alone with the *corpus delicti* made the driver's mistake entirely natural, and the guilt of the accused hard to disclaim. That the latter did not succeed in establishing his innocence was pres-

ently apparent when Thayer had the malicious satisfaction of seeing the policeman and his prisoner get into the cab, the driver mount upon the box, and the vehicle itself move rapidly off.

"That is even better than I could have dared hope," the real culprit soliloquized, as he began to retrace his steps. "It won't hurt the Johnnie to be locked up over night, and in the morning, if necessary, I'll go and get him out."

Now she had learned that the Honorable Arthur was not in a position to bestow upon her the title she fancied she had yearned for, the mild liking Miriam had tried to have for him evaporated, and a wholesome disgust with herself and her own motives surged up and took its place. When Thayer rejoined her he found her in an exceedingly uncomfortable frame of mind and not so confident of her position.

"What am I to do?" she exclaimed, petulantly. "I've run away from my aunt's house and I can't go back—with any grace. She was violently opposed to my receiving Mr. Hedgerley's attentions, and we had words which—which left the situation between us unpleasantly strained. I wrote a note telling her I was going away to marry the man of my choice; naturally I can't return. It would be—would be ridiculous, if nothing more. I simply can't! What am I to do?"

"Shall I tell you?" he asked eagerly. "Make good your word, but change your choice. There are other marriageable men in the world—and close at hand, too. Let me take you to my friend Dr. Fisher. His housekeeper is a motherly soul and will look after you to-night; then, in the morning, I'll—I'll get a license and you can marry me."

"What nonsense! the idea!" cried Miriam, but the hot blush that came to her cheeks seemed to be caused not wholly by anger.

"I maintain the idea is a good one," urged the suitor stoutly. "I'll admit I haven't been walking strictly in the paths of rectitude since you—er—dropped me, but I am going to turn over a new leaf, and my father has promised that when I get ready to settle down he will forgive the past and put me on my feet again in good shape. Honestly, Miriam, I love you more than ever, and I'm sure you used to like me rather better than merely a little; why can't you take pity on me and reverse your former decision? You would make me the happiest man alive, and get yourself creditably out of an awkward fix."

"Oh, very well," said the girl, with a show of mock resignation that covered a deeper feeling, "your last argument is so convincing I shall have to yield, I suppose. There, there, Mel, remember, please, we're in a public street, and try to wait till we've been engaged rather more than a minute before you——"

#### **Use of Compression as a Brake**

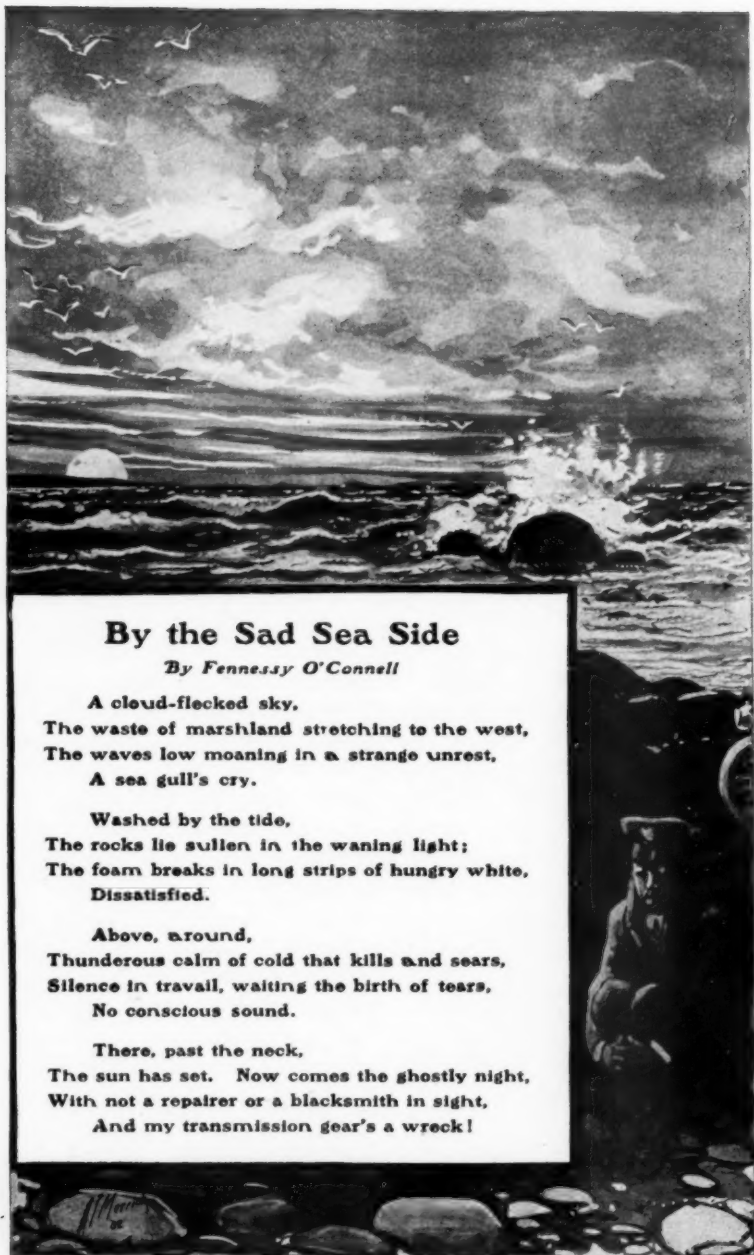
Compression is the term used for the resistance offered by the compressed gas or air on the upward stroke of the piston, which takes place preliminary to firing. The employment of compression for stopping cars on long down grades was formerly a matter of much controversy. It was said to strain the engine, but there will never be any bad effect on the engine if the piston speed is not allowed to become too high. The proper procedure is either to shut off the ignition and leave the gear in (presumably the top speed) without easing the clutch or to completely shut the throttle, which will have a rather less powerful effect though more economical. Braking by compression is an excellent way of preventing the ordinary brakes getting too hot and firing, and at the same time preventing the car from attaining too high a speed. Another ad-

vantage is that the pump still continues to work, and therefore the water is circulated round the engine, tending to make it cooler, for the heat developed by compression is nothing like so great as that of the explosion stroke. On a very steep hill the first speed may be used alternately with the brakes, or, if the hand brake is not connected with the clutch, both it and compression may be used at the same time.

#### **Carburation or "Mixture" Making**

With reference to the admission of much or little air to the carbureter, it will be better to always err in the former direction rather than in the latter. In summer, when the roads are good and the air warm and dry, a great deal more air can be used, and even if too much is admitted it only means that the explosions are somewhat weaker, especially when the engine is running slowly. But if too rich a mixture be used, a sooty and greasy deposit will be formed on the valves, which may seriously affect the working of the motor. The engine under these conditions will also develop undue heat, necessitating more lubricating oil in the cylinder walls and tend to thicken the lubricant in the base chamber. It is advisable that every car not fitted with an automatic air valve should be provided with the power of regulating from the steering handle the quantity of air admitted, since constant changes are necessary in these, according to the road or the power desired. The density of the gasoline and the state of the atmosphere are matters which must be also taken into consideration. The common fault of most drivers is to allow for the admission of too little air.

Ignorance may be bliss, yet the real self-satisfied owner is the one who imagines he knows it all.



## By the Sad Sea Side

*By Fennessy O'Connell*

A cloud-flecked sky,  
The waste of marshland stretching to the west,  
The waves low moaning in a strange unrest,  
A sea gull's cry.

Washed by the tide,  
The rocks lie sullen in the waning light;  
The foam breaks in long strips of hungry white,  
Dissatisfied.

Above, around,  
Thunderous calm of cold that kills and sears,  
Silence in travail, waiting the birth of tears,  
No conscious sound.

There, past the neck,  
The sun has set. Now comes the ghostly night,  
With not a repairer or a blacksmith in sight,  
And my transmission gear's a wreck!

## Making Figures Lie

By Tenlow Wilson



**S**UDDENLY I saw the man in the tonneau reach over, and with a cane pick up a number from the license tag which was hanging just below him. The number originally read 1287. After the cane was used it read 1288, as in drawing 2.

Fig. 1 illustrates the process, which is as follows: The plate is taken in its usual form. Then an additional number, which in the case in point was the figure 7, is made on a piece of thin sheet metal. The additional number is painted to correspond in color and size to those on the plate. The edges of the plate of the additional number are turned just enough to form lips, and these lips are simply pressed over the edges of the plate at the point where the additional number is adjusted. The additional number is designated *a* in Fig. 1. The point of the cam *b* is fitted with a metal edge, and this metal edge is split. The split is pushed on to the side of the additional letter, and the jaws of the split seize the letter in such way that the letter is readily lifted off and taken into the car.

Another way of deceiving those who make a profession of annoying drivers by arresting and fining them is shown in Fig. 3. The inventor of this method utilized this device so he might pass unmolested through a certain town where the constables made their living out of arresting any and all car owners under the allegation that the vehicle was going twenty or more miles an

hour. Apparently the plate read 14519. But the figure "9" was so arranged as to revolve at a given time and convert itself into the figure 6. The figure in its original state, to conform with the registered number, would remain in the position illustrated at *c*, diagram 3. In the event of danger, the figure would be revolved and describe the figure "6"

as in diagram 4, thus making the license tag plainly read "14516." All of this is brought about in a very simple way. The figure 9 is printed upon a disk and the latter is pivoted in its center on the main plate. The disk in practice is the same color as the ground of the plate so as not to be readily distinguished. The operation of turning the figured disk at the proper moment is done by means of a little lever and clutch attached to the back of the plate. By reaching down with a cane, umbrella or pointed stick to this clutch, the lever can be turned and the disk revolved.

In diagram 5 is shown a rather flimsy way of covering or changing the number plate. I saw this made use of by a suburban car owner who had grown weary of being reported for impossible fractures of the speed ordinances. He had paid numerous fines for performances he was sure he had had no connection with, until at last he came to think his number was a hoodoo. He could hardly travel a dozen miles through the country without some one reporting his number for scaring a chicken out of the road or something



Fig. 1



Fig. 2



Fig. 3



Fig. 4

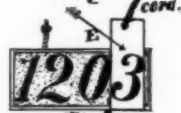


Fig. 5



Fig. 6

of the sort. So he adopted the plan of "fixing" his license plate. He was registered as "1203." Therefore, he made the last number on the plate removable. He had two grooves or guides of sheet metal soldered on the plate, and arranged the plate *e* to slide up and down within these guides. The plate *e*, unfortunately, was not well made, and therefore became a very much too conspicuous object. It was too long, and was not colored up to match with the base plate very well. However, a cord was run through a hole bored in the upper part of this additional letter plate, and as soon as the owner of the car would have left home showing his legal license number, he would pull the cord and lift off the figure "3," thus showing some one else's number, as in diagram 6, being "1200." A mean trick? Of course it was. But as a rule the owner of the false number could easily prove an alibi, which puts the laugh on the officious constable. Diagram 7 illustrates quite a complicated contrivance for reversing number plates, and was devised by an owner, who evidently did not take in consideration the fact that some one might make a close examination of the contrivance and thus quickly discover the fraud thereof. A crude box was set up in which the four-bladed turning device *g* was fixed on a bracket. On the front of each blade was a number. There was one at *i* which was exposed and another at *j* not seen. The rod *h* ran to the front of the car, where levers were arranged to revolve the rod when necessary. The other end was fitted to the shaft of the revolving blade device,

and beveled gears formed the means for effecting the required turns. Thus the registered number could be exposed as at *i*, and, when necessary, a turn of the rod gave the device a quarter revolution, and the number plate on the next blade popped up into view, while the real number of the machine disappeared back of the box partition.

One of the most ingenious contrivances in the number changing game I ever saw is shown in diagram 8. By this arrangement the registered number "1073" can be changed to the number in Fig. 9, by the removing of the upper portion of the figure 7, as shown at *k* in Fig. 8. To do this the upper portion of the figure 7 is made adjustable, and fits into a grooved part of the plate. There is a thin, dark wire extending to the interior of the car, and attached to the part as shown. Therefore, when necessary, the occupant of the car jerks the wire, part of the figure 7 is removed and the number reads "1013," as in diagram 9. I was amused once to see the entire plate of one machine make a complete somersaultic change from the front to the back. This was done as shown in diagram 10. The plate instead of hanging to supports from above it as is customary is supported on a solid base by means of a center stud *m*. One would naturally think from looking at it that the plate was riveted on, but when it comes to the shift all that is needed is to reach back with the handy cane, give the plate a slap or a push, and turn it upside down, so that the number reads the other way, making it "1901," as in diagram 11. Still another





THESE TOURISTS IN A COLUMBIA CAR NEVER SUSPICIONED A CAMERA WAS WITHIN A THOUSAND MILES OF THEM—PARTICULARLY THE LADIES

scheme is exhibited in diagram 12. This is the curtain method of number changing, a combination of cords or wires being used to accomplish it successfully. The base plate 3017 is marked *p* and is supported by the cords or wires *r, r*. But the scorcher expects to travel through hostile country and does not want to be robbed while doing it, so he plays with the constables at the cross roads in this fashion. He arranges an additional plate *o*, supporting it in front of the genuine number, as shown, the cords *s, s* hold this plate in position. The fine-collecting constable with Waterbury in hand is seen at the corner. The dust flies and the car's number is hard to detect. But the constable, and

perhaps his side partner in the fine-grabbing game, is mounted and gives chase. Then the cords *s, s* are freed and the plate bearing the fictitious number "2100" falls to the road. This is easy for the official. He wants the number, that is all. So he secures the plate as evidence and the tricky scorcher continues on his wicked way.

#### Snobbish

"That Mrs. Snaggs is too much of a aristocrat fur me to mingle wid."

"How's that?"

"She was knocked down by a push cart and she had it put into the paper dat she was hit by an autermobile."

## The Original C. E.—Calf Engineer

*By Minnie H. Mackenzie*

**O**NE day through the primeval wood,  
A calf walked home, as good calves should;  
But made a trail all bent askew,  
A crooked trail, as all calves do.  
Since then two hundred years have fled,

And, I infer, the calf is dead.  
But still he left behind his trail,  
And thereby hangs a mortal tale.  
The trail was taken up next day,  
By a lone dog that passed that way,  
And then a wise bell-wether sheep  
Pursued the trail, o'er vale and steep,  
And drew the flock behind him, too,  
As good bell-wethers always do.

And from that day o'er hill and glade,  
Through those old woods a path was made,  
And many men wound in and out,  
And dodged and turned and bent about,  
And uttered words of righteous wrath,  
Because 'twas such a crooked path;  
But still they followed—do not laugh—  
The first migration of that calf,

And through this winding woodway stalked  
Because he wobbled when he walked.

This forest path became a lane,  
That bent and turned and turned again,  
This crooked lane became a road,  
Where many a poor horse, with his load,  
Toiled on beneath the burning sun,  
And traveled some three miles in one,  
And thus a century and a half,  
They trod the footsteps of that calf.

The years passed on in swiftness fleet,  
The road became a village street,  
And this, before men were aware,  
A city's crowded thoroughfare,  
And soon the central street was this,  
Of a renowned metropolis.  
And men two centuries and a half,  
Trod in the footsteps of that calf;

Each day a hundred thousand rout  
Followed the zigzag calf about,  
And o'er his crooked journey went,  
The traffic of a continent.  
A hundred thousand men were led  
By one calf near three centuries dead.



## What Deacon Brown Did

By June E. Remsen



**"N**O sir, I've not been prize-fighting or trying to stop a riot," answered Deacon Brown to the anxious inquiries of his friend; "I've just been learning a few things about motor cycles, that's all. My boy Frank is up at Harvard, and I went to see him at college last week. During the mornings he had to attend a great

many lectures, and proposed that I do Boston on his motor cycle to pass the time. I have ridden a wheel for a good many years, so, when Frank brought the machine around and hurriedly explained, 'Now, Dad, just pull this, and turn that—that lever increases the spark, and here's the gasoline pump,' it looked simple, and I got on.

"Frank gave me a shove, with the assurance that I needn't worry about the power giving out, for the fuel supply was enough for it to run all day, and off I rode.

"The violent coughing of the thing bothered me at first, but I soon became accustomed to that, and enjoyed my novel ride very much until I tried to slow the machinery down in order to get off. I pulled a lever, and the outfit nearly jumped out from under me, tearing up Harvard Square like a cyclone. As soon as I could let go the handle bar I pushed the lever back again, and to my horror the pop-pop-pop came faster and faster. People began to shout at me as I shot along, and I caught bleary glimpses of horses trying to climb telegraph poles.

"Soon I was bumping at an awful rate across the bridge over Charles river, and the awful truth forced itself upon me—I was astride of a snorting runaway juggernaut, dashing toward the densely populated city of Boston, and, worst of all, my steed was warranted to keep it up all day!

"I desperately pulled at the break, and slowed down a little. 'Stop me, officer!' I called to a passing policeman. The fat man in blue by a mighty sprint managed to get his hand on the back part of the saddle, but just then my grip gave out on the brake.

"The machine leaped ahead with renewed speed, and the gallant guardian of the peace was yanked off his pins, and left plowing the dust with his nose, while I desperately steered the hopeless terror into Commonwealth avenue.

"Charging up that aristocratic thoroughfare, my plight caused a dreadful disturbance. John Gilpin's ride wasn't a circumstance to mine. Hatless, with my long frock coat streaming in the breeze, I swooped down on flocks of blue-stockinged children, who fled shrieking to their trembling nurses, while windows were raised and doors flung wide open.

"By getting a new hold on the brake I managed to turn around at the end of the avenue and get pointed toward Cambridge again. Arriving once more in the Square after a dozen hairbreadth escapes, I determined to stop or die, so, seeing an inviting front yard with an open gate right ahead, I whizzed through it and tried to fall off—

"When I first began to smell witch-hazel I opened my eyes to find myself in a cellar, with several men endeavoring to separate me from a bin of soft coal, while above was a broken window, showing where I entered.

"Frank stood by with a scared look on his face, and, handing him the remains of a handle bar that I had still retained, I weakly asked where the rest of 'the thing' was.

"'Well, Dad,' he answered, 'most of it is in the two front rooms and the hall, but they've swept up a few parts that were scattered around the kitchen and in the attic.'

"That's all, my friend; but I'm through experimenting with moody and erratic two-wheeled bucking broncos which take the bit in their teeth and head for eternity at a 48-second clip. No, thanks; I'll walk."

#### **Making the Perfect Carbureter**

In most forms of carbureters an ever increasing jet of gasolene is drawn in proportion to the increased vacuum as the engine gains speed, and this triple range of evils results: First, more gasolene is wasted than is necessary; second, a less quantity of mixture gets into the engine, which affects not only its output, but also its compression, and so influences adversely its efficiency, and, third, the mixture is incorrect, in that it is too rich and still further reduces the efficiency by overheating the combustion head. To effect a cure three means are open to the experimentalist—first, to partially destroy or impair the vacuum, as in the plan of the automatic air device; second, to blow more air in at the entrance, and, third, to avoid any throttling in the air inlet, and to supply at each stroke the quantity of gasolene required either in a liquid or vapor form, or even up a wick. To correct the above mentioned defects, Mr. O'Gorman, an English experimentalist of extreme originality and cleverness, has had made a carbureter which effects the auxiliary air operation by blowing in the required amount of air, and which totally abandons the use of a float, spray or needle

valve along with the present type of automatic air valve. The apparatus, in brief, merely consists of a gasolene tank and pipe through which air is blown from the crank case through the medium of a wick.

This experimental carbureter has furnished a result which goes to support its inventor's claims, and in a diagram illustration of the results obtained from three types of carbureters—an ordinary spray, one with the addition of the automatic air valve, and Mr. O'Gorman's own device—the results shown were as follows: The simple spray developed its highest brake horsepower—a margin over eight—at 1,600 revolutions per minute; the second gave its best result at 1,700, when the curve line rose appreciably above the other, while the pressure feed carbureter developed considerably more than 9 H. P. at the much increased speed of 1,900 revolutions per minute—a speed that the other two failed to at all approach. After detailing the claims of this type of carbureter, the originator of it points out that as gasolene is a liquid and air is a gas, the laws which govern the flow of each are different and the weight of each drawn in does not depend merely upon keeping the degree of vacuum in the carbureter a constant. More is required than this to comply with the essential condition that the correct quality of the gas be supplied to the motor under the varying conditions of high and low speed.

#### **Stop the Engine When Not in Use**

Never leave the engine running when the car is stopped for any length of time, except in the case of a car stopped in traffic, when, of course, the engine should be throttled. Under any other circumstances it is irritating to the public to leave a car outside a store or house with its engine running for any prolonged period.

## Helpful Hints to the Novice

By R. V. Pelton

**W**HILE it may be somewhat extraordinary to the owner of a car, yet it is nevertheless true, that quite a large number of people abstain from motoring for no other reason than that they fear they will never learn to drive and manage their own cars. They look upon a motor vehicle as such a complicated piece of machinery, that mechanical training or knowledge is necessary before the average layman can hope to successfully take charge of his own car.

There can be no greater fallacy than this. Learning to drive a motor-car is little or no more difficult than learning to ride a bicycle; while the amount of knowledge necessary to keep the average car on the road is by no means as great as many people imagine. A breakdown is of very rare occurrence, provided that the car receives ordinarily proper and regular care, not only during its journeys, but also in its storage. It is only the haphazard driver, the man who looks upon an automobile as an entirely automatic machine, who suffers to any extent from breakdowns on the road. Breakdowns are less frequently due to want of mechanical knowledge or aptitude on the part of the owner, than to sheer lack of attention.

It should become an article of faith with every beginner to regard his car as a thing of life, and from the first day of his possession the car should be treated as though it was as capable of feeling ill-usage as a valuable horse would be, and just as likely to have its life and usefulness impaired by inattention as the animal.

When beginning to drive it is almost impossible to be too cautious. "*Festina lente*" should be taken as a maxim, for nothing is gained by an undue anxiety

to put on speed. Incorrect form in driving is very easily acquired during the early stages, and is very difficult to eradicate afterwards.

It should be the aim of every owner to drive in as clean and finished a manner as possible; he should appear always to be handling his car without effort. Perhaps nothing is more ludicrous



A. L. Riker Looking Over His Racing Locomobile

than the sight of an extravagantly clad and goggled driver crouched low over the steering wheel of a noisy runabout and doing possibly twenty miles an hour, but giving everyone the impression that his one idea is speed, and that he has no eyes or thought for anything in the world beyond his own desire to get the very last ounce of power and second-per-mile out of his car, to the entire disregard of all else on the road.

It may not be generally known, but it is nevertheless a fact, that there are many drivers of notoriously fast and high-powered cars on the road to-day who have never yet come under the ban of police persecution. Their immunity—as they will admit—is almost entirely due to their manner of driving, and to the fact they never appear to be in a hurry, or to be disregarding other people on the road.

Whether your driving "form" is good or the reverse will make all the difference to your reception with police and public alike, since both of them judge pace by appearances.

The first step toward acquiring correct form should consist of a thorough understanding of the method of filling up gasoline, water, and lubricating receptacles; then the best position for the lever operating the advancing and retarding of the electric ignition should be carefully noted (ignition should always be well retarded before starting the motor), and also the position of the lever operating the throttle valve. The speed lever should be in the "neutral" notch, so that the car may be what is termed "out of gear," and the hand brake lever should be applied in such a way as to

prevent the car from moving from any inadvertent cause.

These precautions having been taken, the motor itself should be started and stopped several times until this operation can be done without apparent effort. It is always better to place the starting handle in such a position that it has to be pulled upwards rather than to place the handle at the top of the stroke and then push it downwards, because, in the even of a back-fire—or premature explosion—you may very easily acquire a sprained wrist if the latter position is adopted.

The driver having taken his place on the driving seat, the clutch pedal is depressed, the hand brake removed, the speed lever pushed forward into the first speed notch, and the ignition lever slightly advanced; the clutch pedal is then allowed to rise gently, and the car immediately gathers way. For some little time after this it will be quite sufficient for the novice to practice the art of starting and stopping the car, steering past obstacles, and driving backwards. As soon as a certain amount of confidence has been attained—and it will not take long—the second and even third speeds may be indulged in; but it should always be borne in mind that proficiency in steering does not of necessity imply that the driver will be capable of doing the right thing in an emergency, so for this reason it is very necessary that early experience should be gained—whenever possible—in some place where there is little or no traffic.

During the early stages it is as well to avoid steep hills, as these always constitute a real danger to the beginner almost as much when ascending as descending; and unless he has thoroughly mastered the art of changing speed he may be unable to do this at the critical moment when half-way up a hill, with the result that the car may begin to run





IN LEAFY JUNE, AND IN A LOCOMOBILE, TOO

backwards, and serious trouble is almost certain to result, unless the driver is very quick with his brakes. Again, when descending a hill, the beginner is very apt not to notice the speed at which he is traveling, and to fail to appreciate the fact that his brakes cannot safely be applied with the same force when going downhill as when traveling at an equal pace on the level, so that in this way it is quite easy to come to grief if the exigencies of road traffic make a sudden pull up imperative.

#### Fuel per Horse Power

Perhaps no question concerning a motor is more frequently asked than "How much gasoline should an engine consume per horse power per hour?" You will never get two "authorities" to agree in their answers to this very important question, and so each builder and each user of a gas engine has two sets of figures he uses under different conditions. When selling a motor is the game the amount of gasoline it is credited with using is so minute as to

be a matter of no importance at all, but when the motor is to be bought then the amount of fuel required to run it approaches the entire output of the country, provided you accept as true the statements of the would-be buyer or those of the agent of any other gas engine than the one you have decided to purchase.

#### Almost, but Not Quite

"How is your wireless electric car getting along?"

"It is perfected, all but one little detail, and I shall have that mastered in a few days."

"What is that detail, may I ask?"

"I haven't quite got it so it will run yet."





A. L. RIKER, JOE TRACY, AND POOLE, ON VANDERBILT CUP COURSE

## Making a Muffler Muffle

*By Prof. James Hunsicker*

**A**N ideal muffler should reduce the noise of the exhaust to the least possible degree, and yet in doing so it should put no back pressure upon the piston of the engine. A muffler should obviously, also, be large enough to meet these requirements and no more, space being valuable. It may even be desirable in practice to sacrifice a little of each of these points to the desirability of keeping the muffler as small as possible in the case of the motorcycle and some small cars; but the points named still remain the ideal ones to be sought for.

Referring to the first claim for muffler perfection, the noise to be deadened is caused by the sudden liberation of the exhaust gases under pressure. These expand violently, striking the surrounding air and setting it into vibration, causing the sensation known as a noise or explosion. If gases could be expanded in the cylinder and only released therefrom when they had come down to atmospheric pressure, the only sound heard would be the hiss of the gas as it passed the exhaust valve. Such a result would be quite possible, and conducive to economy in the engine.

The same result can be achieved by making the muffler of such capacity and form that the gas expands in it gradually to atmospheric pressure before being released, and this is the method usually adopted.

There is another method which has lately been tried with fair success, which consists in making the muffler of practically no capacity, but dismissing the gas through numerous small openings, the idea being to subdivide the large explosion into numerous small ones, which, not synchronizing, do not produce the same noise; but such silencers must al-

ways be inferior to one which allows room for the expansion of the gas to a lower pressure before dismissal.

To avoid back pressure, the holes in either type of muffler must be of sufficient combined area to permit the passage of all the gas at the pressure at which it reaches them without reducing its velocity. As the pressure of the gases must obviously fall off after passing the exhaust valve, and as the amount of gas passing through any given opening depends directly upon its pressure, the combined area of the holes in the baffles must never be less than that of the exhaust valve.

Before proceeding to actual dimensions the volume of gas to dispose of and its pressure at the moment of release must be definitely known. As no reliable experiments of the pressure in the exhaust pipe are available, this can best be determined by making an indicator diagram of the engine to be considered. Assume a piston of five square inches area and a stroke of three inches, giving about two horse power at 2,000 revolutions per minute, and that the compression space is one-fourth of the cylinder volume, while the temperature at admission is 150° F., thus causing the gas to be heated to 3,260° F., and expanded to its original volume.

From this it will be seen that at the end of the power stroke there is a volume of 15 cubic inches at a pressure of 47.5 lbs. per square inch absolute. To expand gas at this pressure down to atmospheric pressure, it must increase 2.3 times its volume, and the capacity of cylinder and muffler combined must be 2.3 times the capacity of the cylinder alone, always supposing that the exhaust valve is large enough, as is generally the case, to liberate the gas practically

instantaneously before the piston returns.

As gas at 47.5 lbs. pressure passes through an opening three-fourths inch square—about the usual size of valve for such an engine—at the rate of 434 cubic feet per minute, and there are only 15 cubic inches to pass, the time occupied will be  $15 \div (434 \times 1728) = 1/49800$  minute, and the piston performs a stroke of three inches in  $1/400$  minute. Therefore, it will only have moved about one-fourth inch; in point of fact, less, as the velocity taken above is its average velocity, and at the ends of the stroke it moves more slowly, so that the emission is unaffected by it and the cylinder may be counted in the available expansion space. It is necessary, then, to provide only for 1.3 times its capacity in the muffler.

If, therefore, there is added to the engine cylinder a muffler of  $19\frac{1}{2}$  cubic inches, and the gas is allowed to expand in it, there will be no tendency to expand further and escape, but it will merely be displaced by the piston during its return stroke, and will put no back pressure at all on the engine except the small amount caused by the friction of the air against the sides of the pipes.

So far the requirements are fully met, but the noise, although muffled, will still remain, as the expanding gas, suffering no check after passing the exhaust valve, will still strike violently against the imprisoned air in the muffler, and there will be experienced exactly the same report as if it were allowed to pass directly into the open air, except that this report will be inside a box, the walls of which will to some extent diminish the communication of the vibration to the surrounding air.

To check this still further, the large explosion must be broken into a number of smaller ones, by passing the gas through a series of holes or baffle plates,

and how to proportion these to avoid back pressure must be considered. The theoretical discharge of air through an orifice is given by the following formula:

Cubic feet passed per minute =  $\frac{\text{area} \times 37.8 \sqrt{\text{external press. in lbs. per square inch absolute} \times \text{diff. of press. on each side of orifice in lbs. per square inch}}{}$

For pressure up to 50 lbs. experiment shows that only 0.7 of this amount can be counted on, and the following formula used:

Cubic feet passed per minute =  $\frac{\text{area} \times 26.4 \sqrt{\text{external press.} \times \text{diff. of press.}}{}$

Let it be assumed that three plates are inserted across the muffler, dividing it into four equal parts. The pressure of the gas at each baffle, and from that the area necessary to pass it, can then be found.

With three baffles the columns of the expanding gas will be as follows:

At entrance, 1.

At first baffle,  $1\frac{1}{3}$ .

At second baffle,  $1\frac{2}{3}$ .

At third baffle, 2.

At exit,  $2\frac{1}{3}$ .

The pressure of the gas at each baffle can then be calculated by the formula:

$P' = P \div r.408$ .

P being the initial pressure in pounds per square inch absolute, P' the required pressure, and r the ratio of the volume after expansion to the initial volume.

From this it is found that the pressures will be respectively:

At entrance, 47.5 lbs.

At first baffle, 31.3 lbs.

At second baffle, 23.1 lbs.

At third baffle, 17.5 lbs.

At exit, 14.7 lbs.

It is now necessary to proportion the area of the holes in the baffles so that the velocity of the escaping gas may not be diminished. Taking the area of ex-

haust valve at three-fourths square inch, the quantity of gas passed at 47.5 lbs. pressure to a pressure of 31.3 lbs. by the corrected formula equals 550 cubic feet per minute.

The first opening into the muffler should be obviously at least as great as the exhaust valve, which with a properly proportioned exhaust pipe it will be.

Calculating by the same formula, the amount of gas passed per minute through a three-fourths inch opening, we have

At entrance, 550 cubic feet.

At first baffle, 316 cubic feet.

At second baffle, 225 cubic feet.

At third baffle, 138 cubic feet.

If the velocity of the gas is to remain constant, the areas of the holes should vary inversely as these amounts, or be

At first baffle, 1.3 square inches.

At second baffle, 1.2 square inches.

At third baffle, 3.0 square inches.

If the total quantity of the expanding gas had to pass through each baffle, these areas would be the right sizes, but when the muffler is completely filled, the last compartment has passed only one-third of the cylinder volume, the next two-thirds, the third three-thirds or one, and the entrance four-thirds, or one and one-third the cylinder volume. Therefore, the areas may be reduced in proportion to the volumes they have to pass, and the final result is:

At entrance, .75 square inch.

At first baffle, 1.3 square inches.

At second baffle, 1.2 square inches.

At third baffle, 1.0 square inch.

These are the total amounts to which the combined area of the holes must amount, and the more numerous and smaller they are the better for silencing effect, the practical limit to their smallness being set by the liability of exceedingly fine holes to get choked up. In conclusion, the above figures must not

be taken as representing any particular muffler, but from the formula given, and following the same principles, it is easy to proportion any type, whether tubular, cross baffled, or other, so that it shall allow the gases to expand to atmospheric pressure without back pressure on the piston, and with the maximum of silencing effect.

### Lines to a Scorcher

[With apologies to Alfred Tennyson.]

Break, break, break,

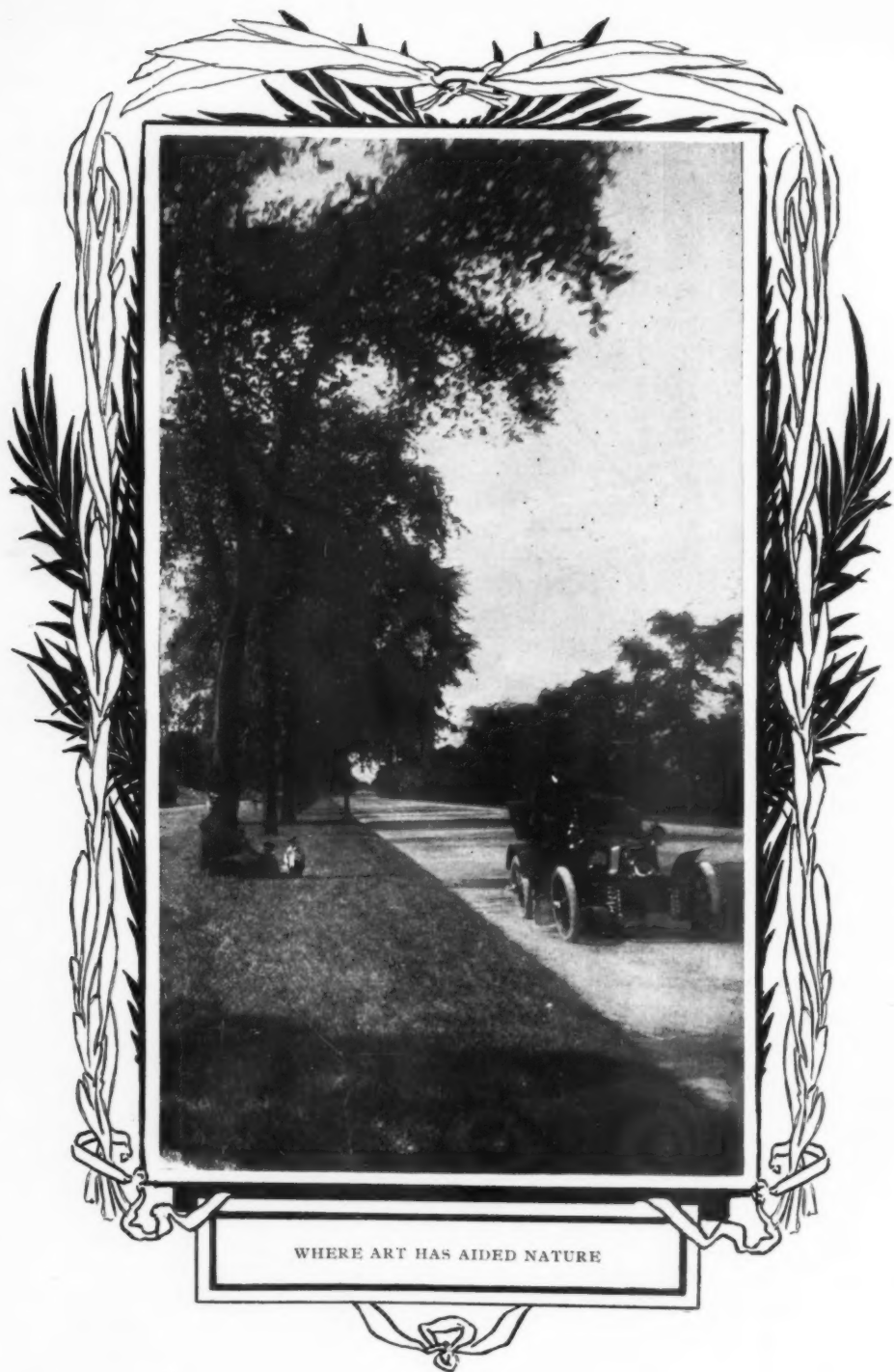
Some other man's face with glee,  
Or shatter his collar-bone if you will,  
But, pray, don't run over me!

O, woe is the man who drives  
Where the scorcherino sweeps;  
His horse butts into the wayside wall  
And smashes the rig for keeps.

And the big machine goes on,  
A-kiting over the hill,  
But, oh, for the touch of a vanished  
hand  
And the sound of a voice that is still!

Break, break, break,  
Whate'er in your path you see,  
But an arm and an ear and a horse that  
is dead  
Will never come back to me.





WHERE ART HAS AIDED NATURE

## Manufacturing Dry Cells

By Ralph J. Dennison

**S**INCE dry cells, or batteries, as they are more commonly called, were first put to practical use, there has been a constant and growing demand for them in many different ways. They have come to be considered the cheapest and most practical way for developing electricity in moderate and intermittent quantities. And justly so, for even if their cheapness be left out of the question, their portability under all conditions, their neatness and the fact that they require no attention, would do much to establish their popularity.

One of the earlier disadvantages of the dry cell was the fact that it was not always possible to depend on its doing a certain amount of work. In other words, it was not reliable. But this problem, like many others, when the necessity of solving it was shown, soon became a matter for experiment, and to-day the life of a dry cell, other things being equal, can be figured out to a practical certainty in ampere-hours at a given discharge rate. As an example of this it may be cited as a fact that the leading railroads are now using dry cells in signal work with very great success, and there are probably few things that require more sure or prompt action.

One decided difficulty to overcome in the successful building of dry cells is the fact that it is a practical impossibility to obtain pure chemicals. And it is for this reason that the wet cell has held its place for so long a time, for could we procure chemically pure zinc, c. p. manganese and c. p. chloride of ammonia, then the wet cell with its dirty, unhandy liquid solution would soon be a back number. But the fact that we are obliged to use impure chemicals, even if only fractionally so, shortens the life

of the dry cell and renders it liable to a certain amount of deterioration after some months of disuse. All know that zinc is used to form the outside shell, or one element of the dry cell, and that a carbon stick is placed in the middle of it for the other element. But not all know that manganese mixed with carbon flour is used as a depolarizer, and that ammonium chloride or sal ammoniac, as it is commonly called, is the excitant or active generator of the electricity. There are other chemicals used also, mostly as local depolarizers, by different manufacturers, but the above are the principal ingredients. There is in addition some insulation used between the zinc shell and the compound itself, usually in the shape of blotting paper. Now, if the zinc and sal ammoniac were chemically pure, there would be no local action between the two, but commercial zinc contains a small percentage of iron, lead and other substances. These form a reaction with the chemicals, which results in their attacking the zinc in such a way as to corrode it, and in time, if this local action goes on unchecked, it will entirely demolish the shell itself.

This has been a serious problem with chemists, and many ways have been tried to overcome it, with fair success. The most expedient way that has been found is to use other chemicals to neutralize this local action, and this is done by the best makers at the present time. It would also be a decided advantage if c. p. manganese could be used, but this, if proper care be taken in the making, is not of such immediate importance as the above. While dealing with the process of manufacture, it might be well to call attention to the fact that some makers secure high initial amperage or

capacity by saturating the battery compound with sulphuric or other acid. But this is a temporary expedient at best, as it not only shortens the life of the cell, but increases the internal action to such an extent that a large share of the power is lost.

It would take too much space to enumerate the many uses that dry cells are now put to, and it would be in fact quite unnecessary. But there are one or two uses that are unique enough to merit attention. One is their use for determining unknown voltages by means of testing instruments. As is well known, all dry cells have a voltage of about 1.5, which is more or less constant according to use. Now if this voltage is made constant, as it can be by decreasing the internal resistance, we have a practical and handy cell for testing instruments, and this is being done more and more every day as its merits become known.

Another use, and one which is becoming better known every day, is in conjunction with miniature bulbs, for obtaining a small portable light. This application has been seized upon by the American inventor, and a large number of electrical novelties have been put on the market, all dependent on this prin-

ciple. The features of prime importance in a light of this sort are its safety in operation and its portability, and these reasons have made the adoption of the electric flash light a practical necessity.

Of the use of dry cells in automobile work it is hardly necessary to say much, for this is too well known to need extended comment at this late day. It is sufficient to say that this field is constantly widening, and it promises eventually to entirely displace the storage or wet cell for sparking purposes.

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#### Paul Revere's Mortifying Failure

Paul Revere had made his famous ride.

"It was really a failure," he confided; "nobody arrested me for exceeding the speed limit."

Feeling he could never be counted with the Four Hundred, he accepted the measly laurels of fame.

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#### A Genuine Novelty

"The Editor of the *Moon* has a new scheme to interest the public."

"What is it?"

"He is going to issue a motorless number of his paper, in which automobiles will not be mentioned at all."



## Tours and the Trans-Hudson Ferries

By Robert Bruce

**A** MOTORIST speeding along Riverside Drive, the water's-edge boulevard of upper New York city, seized with an impulse to drive his car all the way to the Palisade roads, in plain sight on the opposite side of the Hudson or North River, would have practically only one course open to him. That would be to travel to Rensselaer along the east side of the river, there cross the toll bridge into Albany, and return down the west side. To make this transfer of a single mile (air-line distance), would require a journey of almost exactly three hundred miles; and the same requirement would equally apply in the opposite direction.

Of course, no such alternative need actually be met, but the illustration shows in a striking manner just what sort of a barrier the Hudson river in reality is, and suggests a discussion of the various ways in which the passage across this stream may best be accomplished by touring motorists. Numerous ferry-boat lines provide frequent all-year service between Manhattan Island and all important points on the New Jersey mainland; on account of these, the lack of bridges across the North River is not seriously felt by road travel. The skeleton bridge at Poughkeepsie is for railroad traffic only, and not until Rensselaer is reached does the tourist encounter a bridge that he can run his car over; there toll is charged.

During the season of navigation the middle and upper Hudson is crossed by different ferry lines at average distances of a little over fifteen miles. This service is naturally less frequent and much slower than the corresponding service in and about the metropolitan district, but the use of some particular one of these lines may be almost essential at times in

carrying out one's touring plans. Boats of more or less limited capacity run irregularly, and make an average charge of about double the ferriage in and about New York city—justified, no doubt, by the fact that ice closes the channel, and so ties up their business for at least four months out of the twelve.

One's principal objection to them, however, aside from their usually limited capacity, is lack of uniformity either in regulations, charges, or times for making the passage. Ordinarily the only thing to do is to drive down to the proper dock and await the next trip, counting it worth while to make of these often insignificant river ports gateways to the opposite side of the Hudson River Valley. By going down to the water front, too, the tourist encounters many objects of scenic or historic interest, or both, which the Albany Post road, whose tendency it is to keep the upper courses, will altogether miss.

The thoughts of an automobile tourist making the New York-Albany trip along the east side of the Hudson are very likely to turn to a few well-known sections of good roadway across the river in the "West Shore country;" and if wholly unacquainted, he may wonder what it is possible to do in that direction. Of the trans-Hudson ferries, the most important are these: (1) Tarrytown-Nyack; (2) Garrison-West Point; (3) Fishkill Landing-Newburgh; (4) Poughkeepsie-Highland; (5) Rhinecliff-Rondout (Kingston); (6) Catskill Station- (Greendale on N. Y. Central) Catskill; (7) Tivoli-Saugerties; (8) Hudson-Athens, and (9) Newton Hook-Coxsackie. There are other crossings on the river, at places like Yonkers and Peekskill, but they reach localities of no spe-

cial interest to motorists, and would be used for automobile transfers only under exceptional circumstances.

Automobiles are carried across the principal ferries nowadays as a matter of course (as well as of revenue). Not so very long ago they were not; even now motor cars are seldom noted on the time-and-tariff cards. But all regular lines of transportation are coming into line, and the old-fashioned Hudson river ferry masters have not been the last to yield. As a general thing they show no printed schedule of ferry charges, and it is our impression (from one or two experiences) that their charges are somewhat elastic, depending not a little on how much they think the owner will stand. Usually they quote a certain figure for a car and so many persons, charging passenger rates to any in excess of that number.

However, to get across is the main thing in such a situation; ways and means should be passed over somewhat lightly. An electric vehicle can be run aboard at once without question, but if the "captain" says so, all signs of life in a steam or gasolene machine must be snuffed out. The latter is an old government regulation which the ferry-men have the option of enforcing literally if they wish to. Some of them demand this, while others do not; naturally the latter are most popular with the touring fraternity.

A very convenient link in a short tour up one side of the river and down the other is the ferryboat "Rockland" which plies between Tarrytown and Nyack, on the opposite side. From New York to Tarrytown and Nyack, thence back again on the New Jersey side—or the reverse of same—is a comfortable and pleasant outing of anywhere from a half day to a whole day, depending upon one's inclination as to pace. The "Rockland" makes its trip at frequent intervals daily

and Sunday, the time tables of which are posted in both Nyack and Tarrytown. Fare \$1 for the average motor car with not to exceed four persons, and under ordinary circumstances the captain will say, "no restrictions."

The approach to the ferry from the main road—north and south—through Tarrytown is, however, the most difficult one along the river. Whether coming up from New York or down from Poughkeepsie, make a square turn\* from Broadway into Main street, with trolleys. This is direct downtown to the ferry, but there is a sharp curving, dangerous hill on the way. If not perfectly sure of brakes, avoid this hill by going down Main street, to right turn on Washington street, and left turn to Central avenue, to left turn on Orchard street, then back into Main street.

Once again on Main street keep straight ahead over the New York Central tracks, near depot, to the ferry. Coming up from the ferry, either prepare to climb the same steep hill all the way on Main street or reverse the directions already given until they bring to Main street and Broadway—the latter the north-and-south thoroughfare—the Post Road.

Next above Tarrytown-Nyack is the ferry between Garrison and West Point. Curiously enough, neither Garrison nor West Point is directly on a regular north-and-south route along the Hudson river, though both are in the near vicinity. To reach Garrison from below, continue the New York-Albany route through Peekskill and over the new road which fortunately cuts off Nelson Hill, the "terror" of former days. Coming to an irregular four corners, notice one sign showing the way to Garrison, and another one reading "5 miles to Cold Spring." Take the former to

\*Right or left turn, depending upon the direction one is traveling.

reach this ferry, though most through travel will follow the Cold Spring road, Garrison being situated in a bend of the river.

When in Garrison cross the railroad tracks to the river front and take the ferry, which runs principally to meet New York Central trains, but averages better than hourly throughout the day and early evening. Fare \$1 for car and four persons or less. From the deck of the boat may be had one of the finest views up and down the Hudson. To the north the river apparently comes to an end, shut in by Constitution Island; but in reality it simply makes a sharp bend around West Point.

To the west, on a level plateau, some two hundred feet above the river, may be seen the various buildings of the U. S. Military Academy. To the south the view includes the lower gateway to the Highlands, formed by Anthony's Nose and the Dunderberg, while on all sides are the Hudson Highlands. Landing at the dock a long hill must be climbed to the level plateau already mentioned. The down road leads to Highland Falls, the up road to Cornwall and Newburgh, N. Y. Several miles back in the country is the much-used road between Newburgh and New York, which does not bend with the river in a way to take in these places. After the evening parade, which occurs at sunset, the ferryboat will make an extra trip if there are enough passengers to render it worth while.

The Fishkill Landing-Newburgh ferry is probably more used than any other along the Hudson, there being considerable travel between New York and Newburgh, much of it via the east side route in connection with this ferry. This line runs practically throughout the year. To go up to Newburgh on one side of the river, returning on the other side, is one of the pleasantest one-day



trips out of New York. The boat runs on a schedule averaging half-hour trips, and the charges by this line are about half the average for the river—40 cents for the machine and one person—extra passengers 5 cents additional.

Main routes north and south along the east side of the Hudson pass through Fishkill Village, which is about three miles back from the river on higher ground. To reach the ferry (locally the "Landing"), turn down the main street from the village, through the intervening village of Matteawan into Main street, Fishkill-on-Hudson, impossible to mistake the way. Main street soon bends right to irregular four corners, which cross and go straight ahead across the N. Y. Central Railroad tracks, to the ferry slip, just below the depot.

Newburgh is situated on the sloping hills, and from the ferry up to the center of the city the grades look formidable. After the landing go ahead from dock about two blocks to the crossing of Water street, then turn left on Water street for about three blocks to foot of Broadway. Turn right up Broadway to Liberty street, the central four corners of Newburgh, from which most local distances and directions are calculated. Farther out Broadway is the beginning of the route to New York; while Liberty street, north, leads toward Kingston and upper west side points. From Newburgh tours may be planned to Middletown and Port Jervis, N. Y., Delaware Water Gap, Easton, Pa., Newark, N. J., and many other interesting terminals for automobile trips.

From Poughkeepsie, the half-way point on the east side route, ferry service is maintained with Highland on the west side. The service averages half hourly during the day and early evening, with somewhat less frequent trips Sundays. Fare 50 cents for touring car and driver;

extra passengers 7 cents each. To reach the ferry slip is a simple matter; one has only to take Main street, with street car tracks, down a steep hill, past railroad station to the river front, where up and down boats make Poughkeepsie landings and where the ferry crosses to the other side.

Highland, though a small place, is directly in the through route along the west side of the river, and the use of this ferry is at times a matter of great convenience to tourists. Poughkeepsie and Highland form the principal gateway from east side points into the Wal-kill Valley, to Lake Mohonk and the Shawangunk mountains, a country well worth visiting by all nature lovers.

Rhinebeck and Rhinecliff form the principal gateway from the east side route to Rondout and Kingston, the latter the largest point on the upper west side route, situated in the midst of a most picturesque environment. The north-and-south through route—the Albany Post Road—goes through Rhinebeck, which is three miles back in the country from Rhinecliff (the ferry point). However, the road between the two places is good and (going toward the river) it is down grade much of the way.

Old-fashioned stages run several times a day between Rhinebeck and Rhinecliff (railroad station and ferry), which are near together and equally conspicuous to one coming down the last grade. On the Rondout side, go out from the ferry slip, turning left almost at once on the old business street called "The Strand." At the intersection of Broadway, immediately beyond, turn right, go up very steep hill, following trolley about one mile, past West Shore-Ulster & Delaware R. R. station to Main street, Kingston. The principal route outward from Kingston, excepting the one along the west side of the



ONE OF THE JOYS OF TRANS CONTINENTALING

river, is across the Catskill mountains to Binghamton and the west.

Greendale (formerly Catskill station), on the east side, is connected with Catskill on the west side by a ferry line. The former is not directly on the north-and-south line along the east side, but may be reached by a left turn of  $2\frac{1}{2}$  miles to the river front from the prominent four corners about  $3\frac{1}{2}$  miles below Hudson. Motorists making this transfer would probably be obliged to watch the route somewhat, since it is out of the line of ordinary travel.

Making this crossing, the ferry is left at the Landing about one mile below the city of Catskill. From a nearby dock the steamers of the Catskill Evening Line run to and from New York, as well as to and from Hudson and Cocksackie, river points immediately above. Here also the New York-Albany Day Line boats call on both their up and down trips. Just above the same dock is the station of the Catskill Mountain Railway. Leaving the ferry, keep with trolley on Main street all the way into the center of Catskill, from whence routes lead north and south along the

west side of the river, also back into the mountains.

A much simpler crossing of the Hudson from the east and west side is that from Hudson to Athens, next above Greendale-Catskill. Keep Warren street, principal thoroughfare of Hudson, through center of city, with trolleys, making left turn, still with trolleys, down Front street—steep hill; run with care. Just before reaching the railroad depot, make right turn past small park to ferry dock immediately ahead. Fare for ordinary car, 50 cents.

There have now been given the most important of the trans-Hudson ferries. A line crosses from Tivoli to Saugerties and from Newton Hook to Cocksackie; but neither Tivoli nor Newton Hook is on the main thoroughfare along the east side, which follows the higher country farther back from the river. They are rather for possible convenience in carrying out one's special plan than for ordinary and voluntary use. Sooner or later one may need their friendly help, and in that event one will gain by the foreknowledge that they are ready to serve his possible future need.

The Tivoli-Saugerties line is the more important of these two, since Saugerties is a possible gateway into the Catskill Mountains between Kingston and Catskill. Fare for touring car and driver across this ferry, \$1; extra passengers, 25 cents each. Round trips about every 90 minutes, from early morning until early evening; no Sunday service. The Newton Hook Ferry runs from a sort of promontory just north of the N. Y. Central station. To reach same turn down past railroad station, the road curving to the ferry slip. Coxsackie is seen directly across the river, which is not wide at this point.

Since there are no bridges below Rensselaer-Albany, it is a plain case of keeping on one side from New York and the upper suburbs all the way to the Capital City, unless some of these ferries are used. While some of the regulations may seem unnecessary to the automobilist who thoroughly knows and implicitly trusts his machine, yet he can afford to follow the directions literally and with good grace. It is easy to "stand in" with the average ferry master, and the chances are that he knows something about the surrounding country that will fit nicely into your particular touring plan. Better get out than bottle up this information; and what you get in this manner will probably prove useful to yourself and an aid to your tour.

Proceeding from this framework, one's own observation and experience will suggest much in the way of other pleasant side trips on either side. One who wishes to improve the opportunity while his machine is in that territory cannot very well be disappointed by what he will find in crossing the river by one or more of the several ferry lines, and make short runs on the opposite side. In this way it is possible for a well-equipped and resourceful automobilist to see practically all he wishes of

the whole Hudson River Valley without feeling the necessity of making the end-to-end journey up and down both sides.

By no means a territory of perfect roads, the west side of the river is, if anything, the more picturesque of the two, and West Point, at least, has no counterpart on the eastern side. At first glance more or less inaccessible it becomes in fact more accessible as one's acquaintance with it grows. You must simply search it out with more than ordinary care and make each trip an individual itinerary. Used as gateways to the Walkill and Rondout valleys, the Catskill and Shawangunk mountains, to the hill county of Orange and Sullivan counties, etc., the various connections necessary to cross the river at these intermediate and upper points lose their prosaic aspect, and become an object of new interest.

#### **Bondeau of the Stranded One**

Far, far from home the midnight chime  
I hear;

Faintly it falls upon my listening ear.

And to the loved ones there my  
thoughts fly back,

To Bess and Kate and curly-headed  
Jack,

And to my wife, the one I hold most  
dear.

I think of them. The thought brings  
little cheer,

For to my mind this life seems dark  
and drear

Without their presence, and I am,  
alack!

Far, far from home.

No ocean rolls between us, but I fear  
It's just as bad—in fact, it would appear

Much worse. The night is rainy,  
cold and black;

I am upon a muddy, unknown track;  
The blooming car has broke its running  
gear

Far, far from home.

## Porto Rican Possibilities

*By Roul Deschamps*

ONE of the most imperative needs of the island of Porto Rico is in the direction of an improvement in its system of highways. An idea still prevails very widely among many of the islanders that not only did the great government of the United States come to give them a better government, but that it also came to give them a great many other things without their doing anything themselves. It might not be at all a bad idea to give the Porto Ricans, stricken even though they be with the hookworm of disinclination to labor, as our scientific men say they are, an object lesson that would afford them a clearer comprehension of the fact that the aim of the United States government is not so much to give everybody all he wants, or to do everything that anybody would like to have done, as it is to enable its people to get things and to do things for themselves. Therefore, if some 50,000 or so of Porto Ricans could be set at work on the highways for a few weeks, under the supervision of competent engineers, it might be a valuable lesson to them, and, at the same time, do something that very much needs doing.

The area of the island is, approximately, 4,000 square miles. It claims but 150 miles of fairly respectable highway, of which automobilists have received the most glowing pictures and entrancing descriptions. Some of this roadway, I will admit, is almost as good as any to be found anywhere in the United States. Some of it is only fairly good, and some of it is more than doubtful. This includes what are known as the military roads. Being practically destitute of railway facilities, the former government conceived the idea of constructing a complete system of military highways

throughout the island, over which troops could be readily and speedily transferred from point to point, and out of which the officials could make a fat thing for themselves. The result was the present system, which is, by just so much, better than none at all.

Aside from this questionable 150 miles, one might almost say there are no roads in Porto Rico. There are certain narrow ways set apart for road purposes, and used for such when it is possible to use them. But they are at all times abominable, and at frequent times they are wholly impassable, even for the native bullock teams. The common service for the interior, and for many portions of the coast area, is the saddle-horse for passengers and the mule or the pack-horse for freight. This is sometimes carried in panniers and sometimes in bulk packages, after the manner of some of our wild, Rocky Mountain regions. In that country, however, the system is sometimes imperative. Here it is needless. Good roads are possible, and good roads are needed. I am informed by a large coffee-planter that the island produces about 30,000 tons of coffee annually. A very large percentage of this must be transported from the plantations to the shipping port in packages on the backs of mules or horses, and often over what are mere bridle-paths cut into the hillsides. It is a laborious and expensive method of doing business, and adds unduly to the cost of the merchandise.

Aside from the question of the transportation of merchandise there is the matter of passenger traffic. It is the affair of the people themselves if they see fit to put up with the delays, the inconveniences, and the discomforts which arise from the present custom. It

is perhaps nobody's business if every Porto Rican is shaken into fragments, pounded into pulp, hampered in his business, and handicapped in the market by reason of the roads over which he travels or by reason of the lack of them and the consequent retarding of the development of the country.

My business has taken me from Ponce to Mayaguez, the two places ranking as second and third in importance throughout the island. The distance between the two is not far from sixty miles. The first twenty-five miles or so, to Yauco, one covers very comfortably in an hour and a half by means of that cute little substitute for a railroad which runs from Ponce to Yauco. The man of the world who accepts what he finds and makes no complaint about it, will be very well satisfied with what he finds at the little Hotel Victoria in Yauco. The bed is good, the dinner is abundant and good after the manner of Spanish dinners, and the visitor will receive every possible courtesy and attention from both the fleas and the family. The next morning he will start for Mayaguez unless he wishes to spend a pleasant day in pleasant Yauco and Guanica. He may go in the saddle or by carriage. Personally, I can find no pleasure on board of a Porto Rican pony. The beasts are so small that it seems a cruelty to put even one hundred and forty pounds weight on their pony backs. Beyond that, it is my experience thus far that most of them give out completely after a trip of six or seven miles. Then they must either be clubbed along or lugged along. I therefore contracted for a carriage and pair from Yauco to Mayaguez with a relay at Sabana Grande. I reached my destination in sections. I do not know if the whole of me arrived or not. My knowledge of anatomy is too superficial to enable me to determine whether some portion of my sys-

tem, conventional but not vital, does not even now dangle from some barbed-wire fence, or droop gracefully among the cocoanuts at the top of some tall tree along the road from Yauco to Mayaguez. If I get along all right for a day or two, I shall conclude either that I am all here, or that I can get along without anything that I did not bring back with me.

I have had much experience with the rocky roads of the mountains of western Carolina. I have loitered along, hub deep in the thick, black mud of southern Illinois and of Nebraska. But for rocks, mud, and general physical discomfort, the first fifteen miles of that road from Yauco to Mayaguez can give anything of which I know in the United States cards and spades and a beating. Once we mired down completely and had to be extracted by the citizens of the vicinity. The horses lost their pluck; the driver lost his temper, and I made some sacrifice of that mental placidity which is advocated by the Socratic school.

Ten miles or so before reaching Mayaguez, one comes to a bit of military road, and finds a sweet and precious relief, and an opportunity to get enough of himself together to appear in human semblance on his arrival in the city. This has not been my only experience, and I write from no temporary disagreement with that particular stretch of road. There are many miles like unto it, and I have traversed some of them. But they are the only thing which is to be found between the comparatively few miles of good military road and the bridle-paths of the mountains.

I trust that none save the venturesome, the robust, and those in search of experiences, may be led into any attempt to travel by bridle-paths. I have tried them in the daytime, and I rode over them one night for six hours in total darkness. I need not say that I was not



HOW THE BAGGAGE GLIDED ALONG ON THE GLIDDEN

on a pleasure trip. But on the whole I think I prefer the night trip. One cannot then see the difficulties and the dangers. I knew, at times, from my position, that my horse was now climbing a wall, and now going down a precipice. I knew when he floundered in a bog-hole, and I knew when he was feeling for a foothold on the bottom of some swift and rocky mountain stream. More I did not care to know. I simply dropped the reins on the beast's neck, and held my breath. I seemed to have more use for breath than for bridles at the particular time.

Something could be done for human comfort in a carriage trip over these roads, if the Porto Rico drivers could be taught how to drive. They seem to have no desire or purpose except to "get there." Up hill and down, over rough and over smooth, they pound and flog their poor miserable beasts along, with never a chance to rest or to breathe. Remonstrance is almost useless. Three

times on my trip to Mayaguez did I get out and stand before the horses where my *cochero* could not start without running me down. On a recent trip of eighteen miles over the mountains, my driver used three sets of horses, and two of the pairs were utterly exhausted upon reaching the end of their short stage. Not only are better roads much needed, but better horses and better drivers are almost equally so. But the two latter are only desirable, while the first is a necessity for the commercial interests of the land; until the first-named requirements are met let all who seek to tour in comfort or safety beware of incorporating Porto Rico in the itinerary of the new worlds they would conquer with an automobile.

#### What Retarding the Spark Does

Firing too late as a means of slowing a car is an unscientific and an altogether pernicious practice. When this is done the explosion is made to take place just

before the exhaust valve lifts, with the result that a mass of very hot flame rushes out past the exhaust valve, tending to burn away the head of the exhaust valves, destroying the seating, and overheating the exhaust pipe. The charge having been fired too late and not at the proper moment, tends also to make the exhaust have an acrid and disagreeable smell. In fact, one can often tell when a car passes whether the firing is too late, or the engine being retarded by sparking or by throttle. When ascending a hill, as the engine slows down owing to the strain of lifting the car against the force of gravity, the sparking should be gradually allowed to come back notch by notch. But immediately the engine begins to pick up again, the sparking should be put gradually forward until the maximum efficiency is obtained. The bad habit of running with the sparking lever at a fixed point is a common fault, and is indicative of bad engine-manship, for at slow speeds the gas is exploded before the piston is sufficiently near the top of the compression stroke, and when the engine is running fast the firing is too late. In both cases unnecessary heat is produced, resulting in a loss of power. The exact point at which the charge should be exploded can only be learned by experience, but when the engine is running at 300 or 1,500 revolutions per minute the spark should take place when the piston has traveled within 10 per cent. to 15 per cent. of its full distance on the upward stroke. In the case therefore of a six-inch stroke with-

in  $\frac{1}{8}$  to  $\frac{3}{4}$  inch of the top of the stroke when the mixture is being throttled, it should be remembered that the attenuated gas will not fire so easily. Therefore, if running on a down grade with the engine throttled, the sparking may be put rather more forward than with a full charge, as the ignition will not take place quite so quickly as in the case of the richer mixture wherein the conditions are as they should be.

#### Changing Speeds on the Road

A beginner often finds a great difficulty in knowing when to change speed. A good general rule is not to change into a higher gear until the engine ceases to gain speed. On hills everything depends on the length or shortness or the evenness of gradient. Very often judicious management of the sparking and clutch, especially if the hill is a short one, will enable you to surmount it without any change of speed at all. Nowadays, when the engines of cars are so much more efficient in relation to the weight of the vehicle than formerly, the highest gear in the case of many makes will carry one up grades which formerly necessitated a change of speed once, if not twice. It is better to be slightly under-gearred, as regards sprockets, than over-gearred, both for ascending hills as well as for long runs. There will then be no harassing anxiety when an unexpectedly steep rise is encountered, lest the car should stop and the brakes not perhaps holding well, begin to run back.



## After Taking My Own Medicine

*By Randolph J. Randolph, M.D.*

**W**E whose profession it is to do what we can to cure the ills and pains of others are wont entirely too often to overlook our own needs in the same direction as those of our patients; until we, like they, are forced "into the doctors' hands." All medical men know the vital necessity for sunshine and fresh air, for change of scene and surroundings, for relaxation from the grind of existence and departure from the rut of our every-day life, but too many of us, alas, do not practice what we preach, and the price we pay for not doing so is the inevitable breakdown which comes to the doctor, perhaps even more frequently than it does to any other busy professional man.

Such of us as have had the good fortune to have become converts to the use of the automobile are, almost without an exception, unanimous as to the revivifying effects derived from a rapid run of some hours' duration, and, indeed, the advantages of motoring in the treatment of disease have already suggested themselves to the minds of those who in their own persons have gained benefit by such treatment.

In what particular classes of disease the motor car may have a distinct curative effect, time and experience alone can prove, but the knowledge already gained has gone to show that in all likelihood the motor car will prove a valuable adjunct to the many methods adopted by medical men in the treatment of disease. It may be a matter of some difficulty to persuade the average man that this is the case, for a strong wall of prejudice has yet to be broken down before the general public will take to the new means of locomotion in any other than a pleasure-seeking sense.

To those who have rushed through

the air on a motor car, no argument is needed to convince them of the happy effects of the ride, and many persons are ready to bear witness to the fact that their general health has improved since they have taken to motoring. The physiological causes I shall not enter into in this short article. It will be conceded that no form of travel is so easy, so restful—the things around one are so little disturbed that heart and mind share the peace and the stillness of the passing country. Every village passed through leaves its own picture on the mind; the quiet country roads have their own history, and one conjures up all kinds of romances connected with the quaint old houses. The things that lay behind one are forgotten; one's little worries cease to oppress one, and the greater worries assume less threatening proportions. To the distraught mind—whether it is "business," or some other anxiety—nothing can be so welcome as the absolute calmness of temper produced by a motor run into the country. Motoring, indeed, is an effective cure for an over-anxious mind, a perfect restorative to the tired brain.

Several writers in quasi health journals have given their experience of the effect of a motor ride upon an attack of influenza—probably meaning an influenza cold. The exhilarating effects of the ride have enabled them to throw off the symptoms; and it can easily be understood how the rapid rush through the air would aid in the expulsion of the microbe. Ordinary attacks of biliousness are swiftly dispersed by the aid of a motor ride. Asthma in some forms is greatly benefited, provided the right sort of weather be chosen.

Sleeplessness has no greater enemy than the motor car. A fast ride in an

automobile induces just that restfulness of mind so essential to slumber.

It is with the more serious forms of disease, however, that motor driving will probably be found to be of the greatest benefit. With the minor ailments we are content usually to be patient, knowing that they are of only a temporary nature. There is no more fell disease afflicting the world than phthisis, or consumption of the lungs. For generations the medical profession have worked patiently and with infinite perseverance to discover a sure means of cure, and though much has been done, much discovered, many forms of treatment tried, and some of them with a measure of success, yet the medical man will readily grasp at any reasonable suggestion which may be offered to alleviate the suffering or eradicate the cause of the phthisical.

Motoring for those of consumptive tendency is highly beneficial, and in the early stages of the disease it will raise the general tone of health, and so place the person in a fitter condition to throw off the disease, to say nothing of the fact of the inhalation of a purer and more rarified air and consequent greater expansion of the lungs. The authorities of one of our great sanatoria could not do better than give a fair and full trial to motor riding as part of their treatment for suitable cases of consumption.

Another disease which has come as a consequence of our higher civilization is neurasthenia—a peculiar nervous disease exhibiting extraordinary and diverse symptoms. Persons affected by this disease cannot usually take any prolonged exercise, and yet the open air is often an essential part of their cure. Nothing can give them the requisite outdoor exercise, and at the same time produce a necessary placidity of mind, so well as motoring.

All these are but rough suggestions as to some of the ailments benefited by

motoring. To write in detail would take up more space than is at my disposal, but as time goes on and the different observations by medical men are tabulated we shall be able to speak with definite authority as to motoring as a means of combating disease.

It may be well, however, to give a few instances which have come within my own experience. A patient of mine, delicate from boyhood up, tired upon the slightest exertion, with heart affection and weak lungs, refused by insurance companies, frequently absent from business because of his health, took to motoring, with the result that in two years he was altogether a changed man—a robust, healthy-looking individual, and, to quote the words of his brother, "he can eat an ox and knock a house down"—an exaggerated way of putting it, but still indicative of the change. Another instance: a woman suffering from neurasthenia, who for years has been the source of a comfortable addition to the income of myself acting as her medical adviser, was persuaded by me to take to motoring. With fear and trembling she went for her first ride, but felt so much better afterwards that little persuasion was necessary to induce her to continue, with the result that for the last two years she has paid me as her doctor no visit, and now "feels well, eats well, and sleeps well."

This does not pretend to be a scientific article, from either a medical or motorical standpoint, but simply a plea for the ordinary use of the motor by the ordinary person. The joys of the "open road" are so many, so varied, so great, and by no other means than motoring is the pleasure so enhanced. The writer will be forgiven a personal experience. My holiday this year commenced with a tour from New York to Cooperstown. Passing through quiet lanes, through

avenues of trees, with picturesque villages, right into the heart of the famed and picturesque Fenimore Cooper has made known the world over, small wonder worries were forgotten, and the world looked pleasanter than before. It is strange that a four or five days' run on a motor car should effect such a change, yet it is so, and my return journey to my office found me in such good spirits and health that I started off for the quiet seaside villages of the Long Island Hamptons, feeling, however, that there was but little need for a further holiday. If the reader who has had no experience of a long motor ride in the country would take the first opportunity that offers, he will find that this article gives but a feeble impression of the delights of such a trip. To enjoy motoring does not necessarily mean that one must drive himself. The rapid whirling along the road, the rush of the keen air, these and many other things one cannot express better than in Bliss Carmen's poem, taking due care, however, to doing so under the strict interpretation of the poet's injunction contained in the last three words in the final line:

And oh! the joy that is never won,  
But follows and follows the journeying  
sun,  
By marsh and tide, by meadow and  
stream,  
A will-o'-the-wind, a light o' dream,  
Delusion afar, delight anear,  
From morrow to morrow, from year to  
year.  
A Jack-o'-lantern, a fairy fire.  
A dare, a bliss and a desire!  
The racy smell of the forest loam,  
When the stealthy, sad-heart leaves go  
home;  
The broad gold wake of the afternoon;  
The silent flick of the cold new moon;

The sound of the hollow sea's release,  
From stormy tumult to starry peace;  
These are the joys of the open road,  
For him who travels without a load.

#### Management of the Clutch

Correct handling of the clutch varies with different cars, but, as a rule, it can be said that the less the clutch is allowed to slip, either intentionally or unintentionally, the better. It can be eased at times when it is desired to allow the engine to run a little more quickly, or to enable a car to surmount a short hill. Sudden shocks to the clutch should be carefully avoided. The leather should be kept soft by being oiled from time to time, otherwise this material will crack, and one day may come away from its fastenings. The clutch spring also should be adjusted as lightly as possible, compatible with the clutch not slipping. To put unnecessary pressure from behind on the clutch causes waste of power, for it causes friction on whatever bearings receive the pressure, whether in the base chamber or that immediately behind the clutch itself.

#### Making and Using a Pit Properly

Despite the many other ingenious substitutes therefor, the good old pit still remains a very advisable thing to have in any place where an automobile is stored. For all ordinary purposes this convenience for properly inspecting, cleaning and repairing a car should have about these equipments and dimensions: Width, 3 feet 6 inches; depth, 4 feet 6 inches; and length not less than 6 feet. A rabbet or ledge about an inch in width should be left along the edge of the pit, upon which the cover boards may rest when the pit is not in use. Particular attention should be paid to the drainage, and steps should be provided at one end, if not both. Another

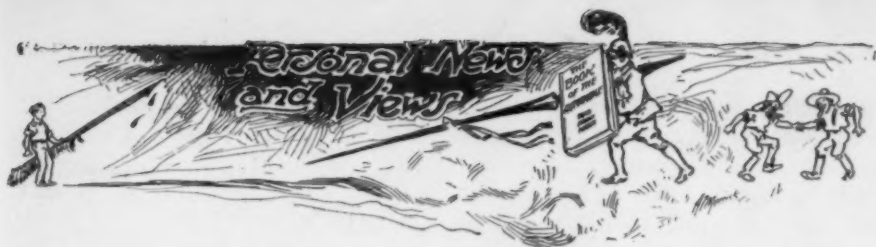
useful addition is to nail a piece of inch batten along the side of the pit for its entire length, at a height of from twenty-four to thirty inches from the bottom of the pit. The board resting and sliding upon these battens forms a very handy and movable shelf, upon which you can place the tools, and, if made sufficiently strong, it can also be used as a seat for the operator.

Where electric light is available, a cable should be laid down to the pit, and two or three wall sockets placed at intervals along the side of the pit, so that you can connect up a portable lamp to the most convenient of these sockets. On no account should any other light, except a safety lamp of the miner's type, be used in the pit. It was only recently that a garage workman in a moment of forgetfulness struck a match to find a tool he had dropped. The result was an explosion of gasoline vapor, which had accumulated in the pit, which sent the man to the hospital, and the machine and the garage to the repair people. Gasoline vapor, regarded generally in the light of a gas, is supposed to be lighter than air, and is by many thought to ascend rather than to settle in lower strata. This is not the case, however, as gasoline vapor is heavier than air, and inevitably accumulates low down; hence the accident mentioned. It is always well to see that the hatch or cover is put over the pit when the latter is not in use, as even a person who knows the premises may, through absent-mindedness or sheer carelessness, fall into the pit if it is left uncovered.



### Some Minor Noise Makers

The engine is not the only noisy part of the car which requires attention. This is a point which a good many objectors to a noisy car are apt to overlook. The best of the engine is at least regular, and not by any means irritating if moderately muffled. The things which frighten horse drivers and give motor-phobes excuses for complaints of noise are due to a multitude of causes, in which bad driving occupies a prominent position. You all know the man who contrives to make so violent a racket changing gears that the onlookers are firmly convinced that his car is about to blow up. Some of these drivers, however, deserve sympathy, as the combination of ungoverned engine and little or no knack in the direction of manipulation is often a difficult one so far as quiet gear changing is concerned. The transmission itself in many machines is very far from quiet, though in others it is practically noiseless, as it should be, and if properly made and designed would be in all cases. There are other cars which, while fairly quiet both as to engine and transmission, are nevertheless noisy vehicles to meet, simply because almost everything which can rattle is loose. When every wearing part has play, and the tools themselves are left to dance a separate hornpipe in the tool drawers, the lamp glasses loose, the bonnet half fastened, and the springs creaking, a great volume of irritating noise results. Sometimes all this is the fault of the user, but, to do him justice, it is as often the fault of the maker, for no attempt has been made by the maker to keep these parts quiet, and the user, unless he is prepared to take a great deal of trouble, finds it impossible to make his car moderately silent, no matter what he may do or refrain from doing.



**I**N my derogatory criticism last month of the farmer and his unreasoning and unaltering objection to the automobile, as to all else savoring of progress and advancement, I must either have misjudged the kindly bucolic or else my acquaintance with him has not been sufficiently extensive to have permitted me knowing him as he really is, since I now have the authority of Mr. Dave Hennen Morris, President of the Automobile Club of America, directly to the contrary of my ideas. In the course of Mr. Morris' introductory to the D. Appleton Co.'s new work, "The Book of the Automobile," Mr. Morris makes what is to me this most astonishing statement.

"Strange to say, the staunchest advocate of the automobile to-day is the farmer. He has appreciated much more quickly than the city man the advantages of the machine, probably because these advantages appealed to him in a peculiar way. He has been taken out of an otherwise enforced loneliness; farms which have heretofore been inaccessible both for their occupants and for their products, have, by the introduction of the automobile, overcome space, and found new and near neighbors. Where it took a farmer all day to drive his horse to market, sell his goods and return home, he can now do it in a morning, besides carrying twice the load he did before. He likewise appreciates that in addition to their larger radius, automobiles have the further advantage of requiring neither to be fed nor cooled off, expensive and time-consuming processes."

I cannot conceive where Mr. Morris met the unheard of kind of farmers he writes about. Certainly they never existed anywhere in the United States, and if not there I doubt whether Mr. Morris ever met them anywhere outside his imagination. Just imagine the farmer in the guise of "the staunchest friend of the automobile!" Then try to imagine him appreciating "much more quickly than the city man the advantages of the machine!" If you haven't collapsed attempting these mental highlights try and figure out how his farm heretofore "inaccessible" with trolleys, railroads, wagons and horses at disposal has suddenly been made so accessible by the automobile that he goes to market and returns in half the time he did before "besides carrying twice the load he did before." Of course anyone can imagine the farmer carrying twice the load he formerly did if he had money enough left to buy it after he had paid for an automobile with which to reach his hitherto "inaccessible" farm. And in the morning after he has brought that extra package of his and while his hair is hurting him and things look brown, not rosy, imagine Mr. Morris' "staunchest advocate of the automobile" looking at the vehicle he has paid a thousand or more dollars for, and consoling himself for the seeming extravagance of having done so by remembering the great advantages the car possesses "in requiring neither to be fed nor cooled off, expensive and time-consuming processes," things so precious in the eyes of every farmer as to make the twenty cents per gallon he has to pay

for gasolene, the repair bills and the etc., etc., too numerous to mention, as mere bagatelles utterly unworthy of a second thought on the part of Mr. Morris' "advocate." If Mr. Morris will only tell me where his kind of farmers can be found I would like to go and get one—I am sure there isn't any more—and exhibit this hitherto undreamed-of farmer as the greatest discovery of the twentieth century.

The beginner's confidence in his thorough knowledge of his car is usually born of ignorance, but it becomes the father of knowledge eventually.

As every owner of a car quickly learns, the power developed by the motor is dissipated in varying rates according to the types of gear used to effect the speed reduction necessary for the road wheels, and the presence, or absence, of other frictional causes of power loss that may be considered incidental only to the condition of a particular car. Without reference to this latter cause, Mr. O'Gorman, the British expert, claims that with the "direct" drive, as, for example, on top speed, where the engine drives directly by chain to the wheels, the efficiency is upward of 80 per cent. of the engine power. In the same way where the drive is direct to a countershaft, thence to the rear axle by chain, the efficiency is upward of 70 per cent., while in other forms of power transmission the friction losses vary from 38 to 50 per cent. of the power developed by the engine.

When it comes to votes quantity counts more than quality, hence the number of oppressive automobile laws brought before the various State legislatures each year.



**T**HERE once was a man who was stranded in a new western town. The man was one of the very few guests at a big hotel the town boomers had built on the edge of a swamp which they pleasantly alluded to in their advertisement as "a lake of crystal." As the man sat on the piazza of the hotel at dusk his loneliness was made all the greater by the weird bull frog chorus which arose from the reedy banks of that aforementioned crystal lake. In sheer desperation he sought out the proprietor and asked him if he served frogs' legs to his guests. The proprietor replied that he did not, because they were a delicacy and very hard to find in the market. "Great Scott, man," said the wrought up guest, "do you talk of going to market for such a thing when there's a million bull frogs' bellowing right on your front door step at this very minute?" The proprietor tried to calm his guest by telling him that there were only a few frogs responsible for the chorus referred to, and that those few were wily and hard to capture. The guest was made more angry than ever by this, and finally entered into a contract with the hotel proprietor to supply him with 500 pair of bull frogs' legs at once, and thereafter at the same rate per day for one month. Next day the boarder went after his green goods from which he expected to make a small fortune. At the end of a week he had landed just a dozen frogs and that exhausted the entire crop. You see you can't estimate the size of a frog chorus by the noise thereof.

I thought of this story recently when I was looking over the figures in the annual report of the Appraiser of the

Port of New York for the fiscal year ending June 30, wherein it was shown that just 786 automobiles of a total value of about \$3,000,000 had been imported during the past twelve months. Of course, this is quite a respectable number of cars, and the average price of each one of the 786 figures out a trifle over \$3,800, which is also quite a tidy bit of money, but really I had expected from all the hubbub, salon palaver, and so on and so on that the number was far greater and the price much higher. If all the importers only brought over 786 cars from the other side, and all the foreign makers only received in return for their cars an average of \$3,800 apiece for them, I'll be blessed if the American manufacturer isn't a blamed sight closer to controlling his home market than I thought he was. This means also that the long-expected invasion of the foreign markets by the American automobile manufacturers is a thing now of months, only while even the best of us thought it was an affair of years hence. Giving the importers their dues, however, everyone must admit that they have done a foreign business in an American fashion, a thing most difficult of successful accomplishment, and they have made the home makers look well to their going to prevent themselves from losing a lot more than the \$3,000,000 in sales the importers have divided up among themselves.

**T**OURS! Just a few remarks anent these, as they have not been conducted up to date. Call them what you will, in the end all of the A. A. A. affairs have been nothing but cross country helter skelters, with the one idea of the devil being due to take the hindmost ever in complete domination of the affairs. As these "tours" have been misconducted, they have been of a positive injury to the good repute of auto-

mobiling, the highest type of which is rather foolishly supposed by the general public to be that which is organized. The much advertised Glidden affair is not a whit better in regard to an observance of touring conditions than was its predecessor, the unsavory St. Louis function. It is really too bad that such things should occur, particularly just at this time when the public is none too kindly disposed to automobilists, but apparently it is an impossibility to get more than two automobiles to travel in company over the same route and at the same time without the whole thing developing into a disgraceful scramble for finishing first. In conclusion, with all due deference, permit me to observe that such affairs as these are not made more successful by the presence of ladies as competitors. Automobiling owes much to fair woman's favor, and will in the future owe more still, but the words "endurance," "contest," "race," etc., are not such as to call to the minds of those who hear them coupled with that of women participants any other than unpleasant pictures which women themselves should be the first to object to. Enough said, I hope.

I heard an overdressed, loud spoken female recently observe: "I don't much care for an automobile. One can't put a check rein on it nor dock its tail."



**T**O better understand the meaning of all this importing game, perhaps you might prefer a few facts and figures relating to what has been done by us in this line. We began buying automobiles abroad in 1901, in which year we brought over just 26 cars, valued at

\$43,126. These imports have increased steadily, reaching \$1,446,303 in 1904, fiscal year.

Most of these imported cars—86 per cent.—came from France, the value of American automobile imports from that country being nearly seven times as much as from all other countries combined, the exact figures for the last fiscal year from France being 368 machines, valued at \$1,117,494. From Germany we got 22, from England 15, from Italy 13, from Switzerland 3, and from Ireland and Cuba 1 each.

American tariff on automobiles and parts thereof is 45 per cent. ad valorem, which, since 1901, has put \$1,373,835 in our national treasury, which certainly isn't bad for an infant industry.

Since 1902 our exports of automobiles have been, fiscal year: 1902, \$948,528; 1903, \$1,207,034; 1904, \$1,895,000; 1905, ten months, \$1,876,063; 1905, year, estimated, \$2,200,000.

Three-fourths of these exports went to the United Kingdom and Canada. So as I have said in the preceding item you can see we have already begun our invasion.



**T**HERE'S a whole lot of things they do better abroad than we do here. Prominently among the many is the treatment handed out to automobilists by the authorities on the Continent. We could learn a book full of common sense and justice from studying foreign examples in this matter. Take the scorch-er, and believe me they have him over there just as we have him here, and see how they make his punishment fit his crime. As an example, here is the case of an automobilist named Pierre Michel, who accidentally ran

down a pedestrian at Nice recently. Despite unquestionable testimony in Michel's behalf showing many extenuating circumstances, he has been sentenced to six months' imprisonment, fined 500 francs, and ordered to pay the widow and children of the dead man sums aggregating 13,000 francs, and to remain in prison till the penalties are paid.

Now, I'll leave it to you if one or two verdicts like this foreign one if reached in this country would not do more toward putting a complete quietus upon careless or reckless driving than any amount of police persecution, magisterial hysteria and hayseed legislating will ever bring about.

Those who don't believe anything they hear about an automobile get it in the neck almost as often as those who believe everything they hear about it.

**I**F it had called for the smallest atom of perspicacity on my part the recent newspaper exposure of the condition of affairs in the New York Motor Club, of which the resignations of Vice-President S. M. Miles and Secretary Louis R. Smith were but climaxes, I should feel very much inclined at this time to recall to the recollection of my readers the statements I made as far back as last February concerning the leading or rather the misleading officials of the N. Y. M. C. In the course of my remarks then about its officials and the pitiful exhibition they made of their utter inability to size up to the demands of the position called for on the occasion of the luncheon tendered Sir Thomas Dewar I felt called upon to observe:

"It was without any exception the worst managed function of its kind I ever had the misfortune to take part in. The truth to tell, it was not managed at all, but was allowed to struggle along as best it might without guidance from

anyone. The guest of the evening was seated at a table which, with perhaps one or two exceptions, had the finest aggregation of nobodies that could have been gotten together if you had spent a life time in making the collection. The fillers in at the table of honor may have been prominent members of the New York Motor Club; but if they were, then the N. Y. M. C. has a future before it which can only be written O. Not to be too severe upon the guest tablers, they looked to me like the elite of Flatbush at a soda water counter imagining themselves as being real devilish. I am ashamed to think what a man of the world like Sir Thomas must have thought of New York motorists if he accepted those nearest to him as the very flower of the flock."

This candid and not at all exaggerated sizing up of the official incapacity of the New York Motor Club, brought to Mr. Angus Sinclair, as editor of this magazine, a telephonic intimation that he was to be censured and deposed from his office as a governor of the N. Y. M. C. for my having dared to even intimate just how yappy the leading officials of the N. Y. M. C. were. Eventually something of this kind was undertaken, but it developed that every member of the organization was not a Flatbush four-flusher and so the matter was dropped. In this connection, however, it is interesting to observe that one of those who were most savage in their denunciation of the *AUTOMOBILE MAGAZINE*, and who was at the very front of the deposing program is to-day one of those whose resignations accompanied those of Messrs. Miles and Smith, thereby confessing that my estimate, made six months ago of the N. Y. M. C.'s future under the guidance of such officials as it then had was nothing but absolutely correct. There is room for just such an organization as the New York Mo-

tor Club; further, there is a real need for just such a thing, but it is useless to look to Flatbush and the club coal-holes for competent officials. Put men like those whose resignations have been made in charge of the club and at once its future becomes an assured success; run it on the Flatbush sewing circle idea as at present and its future is an assured failure.



**D**O you know what is the matter with automobile racing as it is now conducted? If you don't, I'll tell you what I think is wrong with it. There isn't any. By this I don't mean there isn't any wrong, but that there isn't any racing. I've seen the best and the worst of what the public in and around New York has paid its good money to see while possessed with the delusion that racing meant contesting. But it don't; not in automobiling at least. There it means processions, protests, runaways, walkovers, or even turnovers, but contest, never! Well, what's the answer? Why, and again wherefore? It grieves me to be compelled to reply tersely and truthfully, I don't know. No one can deny that something is radically wrong and that the auriferous egg-laying specimens of the anserinae family are rapidly being depleted by this racing allegement, but what should be done? that's the question, but what's the answer? Even Al Reeves, who I consider in a class all by himself when it comes to this racing proposition, with all the prestige begotten of the famous Morris Park behind him, with everything that money could buy and Mr. Reeve's undoubted knowledge of the racing game could suggest

has not produced real racing. Why? Certainly it cannot be said that the automobilists are not good sportsmen because, taken as a class, they will compare favorably with those in any other line of sport; the fault cannot be laid at Mr. Reeves' door, since I know him to be a conscientious, courteous, careful and exceedingly well posted man where racing is concerned, and one who never spares himself or his efforts to make a success of anything he takes hold of. Then why this constant failure to make racing between automobiles mean contests between automobiles the same as racing in other directions means contesting? Again I can only say I don't know. The fact remains, and as Shakespeare puts it: . . . 't is true: 't is true 't is pity; And pity 't is 't is true.

*If you see it in the Sun 't's so so.*

**T**HERE is hardly a large daily in New York which does not each day reprint extracts from the rural papers showing how the rustic reporter manages to make news out of nothing or mistakes out of everything. But let me tell you the New York papers are not so all-fired perfect themselves. For example take this item from a front page story in the *Sun* recently:

"No 10,663 had been driven hard and was perspiring profusely in the vicinity of the gasoline tank. In the course of time a man emerged from the University Club and started the machinery. The first principle of this operation is to throw an electric spark into contact with a reasonable amount of gasoline. The driver sent the electricity into all the gasoline. Many men came from the club on the heels of the explosion. Some of them carried seltzer bottles. Others who looked like waiters had pails of water. Neither siphon nor bucket brigade was effective against the flames."

Why shouldn't an automobile explode when in the very midst its profuse perspiration its driver so far forgot "the first principle" as to send "the electricity into all the gasoline." Of course, to any one but the driver and the *Sun's* brilliant reporter just how the driver accomplished this mystery is exceedingly difficult to understand; but no matter.



**G**O on! Don't you come around trying to convince me that a woman won't make herself look homely, not even if she does imagine doing so is fashionable. I know a blamed sight better. She'll go out of her way just to see how hideous she can make herself up if you can only convince her that doing so makes some other woman envious. I recently had a little argument along these lines with one of the best fellows I know, but who believes that women settle all questions in their lives for and by their mirrors. Neither of us could convince the other that he was right, so we left the decision to a mutual acquaintance who, while she asks nine kinds of prices for the gowns and wraps she sells her friends at her place on the avenue, is still herself persona grata in society. After hearing the argument she gave utterance to this sybilic decision:

"Whether automobile dressing for women is beautiful or not is no longer regarded as important. It is now thought all but impossible to make it becoming. At the same time there is satisfaction in its being so unmistakable. Wherever we go, whether it be to Manhattan Beach or as far as Atlantic City, there is

no mistaking the fact that we arrived in automobiles. Even if it be only a meal sack, veil and a pair of goggles that a woman puts on the top of her hat when she gets out of the car, there is no doubt of the fact that she came in a motor car. And with so many other women compelled to come in trains, trolleys or boats, there is a satisfaction to any woman in this superiority, no matter how she may look."

That's just my idea of the way the whole thing works out.

A new motoring novel by the author of "An Eye for an Eye" is promised, entitled "A Toot for a Toot."



**T**HE situation reached by the automobile in its runaway race for public favor can truthfully be stated as being this: The market situation in the matter now depends not on whether a person wants an automobile, but on his ability to buy one. The real truth is that Americans, with all their wealth, do not as a rule spend generously, and not a few of those who can afford automobiles do not yet think they can. Even the enemies of the vehicle now admit that public or civic aspect of their use deserves profound consideration. Not only is the automobile "handier" in the streets than any other vehicle, but it also is far less expensive to the community. Roads once constructed will last many times as long as they do now when traversed only by automobiles. Fully fifty per cent. of the present expense of street cleaning will be unnecessary when the horse is scarce, while the space in all busy city streets will be of far greater practical advantage to all business men and to the people generally that at the present time when the horse

has ceased to be the only method of supplying power to a conveyance, since three times as much vehicular life can then be packed into a downtown street as will ever be possible with horse drawn vehicles.



**W**ELL, we didn't win the International Cup. I did not expect that we would, but while we were beaten we were by no means disgraced. Out of eighteen starters, representing the highest powered and priced cars in all the world, but five were able to finish before the Pope-Toledo, representing America, came over the line, and to do this required the six cars to have an average horse power of more than twice that of the American car. In other words, the Pope-Toledo, with by far the lowest horse power of all the competitors, was sixth in the greatest automobile race ever run. This was something to be proud of, but the best is yet to come. Among the "also rans" which were well beaten by that real American, the Pope-Toledo, was the big 120 H. P. German car belonging to that other kind of American, Mr. Clarence Gray Dinsmore, who while chairman of the Committee on Foreign Relations of the Automobile Club of America, and as such acting as the representative abroad of all those who enter in the Bennett Cup race from this country, still does all he possibly can to prevent his countrymen (?) from winning, even to the extent of spending thousands of dollars for a car and driver to race them as representatives of Germany. To Col. Albert A. Pope, then, are the thanks of every real American due for at least

enabling this country to defeat that particularly unsavory brand of alleged Americanism which is tagged "made in Germany." We have grown used to the A. C. A.'s worship of all things foreign in automobiling, but we never will get used to the chairman of its Foreign Relations Committee posing as an American while racing as a German.



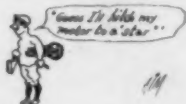
**L**OGIC is a queer thing, absence of it is often queerer still. You see a race horse hooded and blinkered so he will not refuse to run true because of the flying gravel, grit and dirt thrown into his face and eyes by the flying hoofs of his companions. While this is done, the jockey upon whom depends more really than the horse when it comes to winning, rides with his eyes unprotected, thus risking not only the money of the public, but the life of the animal he bestrides as well as his own. Why should jockeys not wear the same "talc" glasses that are always used in motor racing. If any jockey will make a trial of these glasses he will quickly find that they do not upset his vision at all, besides protecting him against the dust and gravel sent up by the hoofs of the animals. Those who worship always at the altar of conventionality will bitterly oppose this idea with their pet argument that the world's best jockeys in the past never had to imitate automobilists, hence there is no good reason why those of to-day should do so. Of course, the fact that there were no automobilists to imitate by the ex-best jockeys is not deemed of any consequence to the logicians of the conventional school. Mark

my words, you'll see jockeys wearing automobile "goggles" in all their races before another year has passed.

**Y**OU are assured by proverb that you cannot teach an old dog new tricks; an intimate acquaintance with dogs, tricky and otherwise, has taught me that it is far easier to teach an old dog new tricks than it is to teach him to forget his old ones. I am reminded of all this when I watch the waning of a once all-conquering motor car racing man. When this individual was a bicycle racer it was one of the ordinary tricks of the trade to arrange a match race between two supposed deadly rivals, work it up in the press, get the people to attend and then to have something go wrong with one of the machines. Often a chain, which has been properly equipped with a lead rivet for this purpose, would break, and the noble racing man who was thus put out of the race would return to the grandstand and there bellow his hard luck story so vociferously that some people would actually believe it was an accident. Judging from the recent flukes this ex-cycle racing man has been prominent in, he certainly has not forgot anything he learned on the cycle race tracks in the way of faking.

The car this individual uses is, I know, all right. It is not only well made, but it is wisely made, too, so when you see it going wrong only at those times when its doing so will save the face of the man who is piloting it, it is the part of wisdom not to suspect the car. I once heard this same driver proclaim himself as being a grafter who wanted everybody to know he was one and as being out for the coin all the time. Well, for a time he got what he was after; now he's beginning to pay the bills for getting it. You can't win automobile races any more by the mere expulsion of hot air from a

cavernous oral orifice and a bit of grandstand finishing. No, that day has gone by. To-day you have got to have as good a car as your competitor, an equal amount of luck with him, and then if you are cleverer than he you may win. But the day of winning by mere strength of lung and a profusion of cheap talk and braggadocio has passed away, never to return again, thank goodness!



**A**LREADY the question is being asked by those who very properly regard the motor cycle as the parent, not as the child, of the automobile: "What and when was the first motor cycle ever used in America?" The distinction has been accredited to several machines, but the first two wheelers I can remember were exhibited at the New York cycle show of 1895 by "Airship" Pennington. He had a single-seater and a tandem and they were run around in the basement of Madison Square Garden. Visitors were treated to free rides, and those who remember them can testify that they were very speedy. A racing cyclist was reported at the time to have bought one for pacing purposes, and he was thought to be crazy. It is said on excellent authority, however, that the first motor cycle antedated these by as much as eight or ten years, when Copeland in California attached a steam motor to a Star bicycle. This machine was run on the roads there and was exhibited in the East. The manufacturers of the Star saw the Copeland makeshift and thought to improve upon it by attaching a more powerful motor and equipping it with three wheels. This machine when constructed was a very respectable

prototype of the modern motor vehicle. Copeland subsequently built a steam tricycle carrying two passengers and having a large single driving wheel and small steerers. These machines were by no means failures, but were reliable, although of delicate construction. The tricycles were made not later than 1888 and the bicycle two or three years earlier. The only trouble with them was the lack of faith and absence of demand on the part of the public.

Let us, then, be up and doing;  
If we don't, as you're aware,  
Others this advice pursuing  
Will be doing us for fair.



**O**VER in London where the male portion of the population by custom and necessity compelled to wear its trousers permanently reefed, they have just put in use a motor street cleaning machine that will do the work of 500 men. The mechanical white wings operates rakes for caked mud, "squeegees" for sloppy weather, and a revolving brush and a set of overlapping scrapers to complete the cleaning operation. All the refuse goes into a box, while the motorized broom wielder cleans the street from curb to curb at the rate of eight miles an hour. I can just imagine what a time there is going to be when some would-be political economist attempts to introduce this London invention over here. We'll not enter into any arguments as to whether this machine is a money- or a time-saving affair, we'll even grant that it can do the work of 500 men better than the men can, but can it cast 500 votes? There's the only question over here, my boys.

THE OUTSIDER,



## What the Man on the Road Sees

By "Flattop"

**M**ANY a man has won fame and fortune by a close shave; those princes of misfortune whom the unthinking are content to designate as tramps wear as the distinctive badge of their lack of luck the hirsute face mask begotten of unfamiliarity with a razor.

The real application of all this is plain: if you would win be well and often shaved; if you prefer to be a failure follow the tramp's excellent example and don't shave. It is true shaving won't make you rich per se, but it is equally true that it will while adding greatly to your chances of winning never make you poor—if you shave yourself as you should do. Don't tell me you can't do this. That's what I said, and what I believed, too, for more than thirty years. Now I know differently. I can and I do shave myself with as little thought or care of any dangerous consequences from doing so as when I brush my teeth, and I

haven't been to a barber school to learn this very satisfactory accomplishment either. All I did was to permit myself to be induced into trying a Gillette safety razor. For any man to be tied to a barber's chair nowadays is an absolute confession that he does not want personal comfort and cleanliness, while the tourist who has not safely stowed away somewhere in his car or luggage one of these Gillette guarantees for solid comfort is a man so unacquainted with comfort and convenience that he is deserving only of pity. You get one of these little shavers, and if I've overstated their abilities one iota it's up to me and I'll pay the bill.

A writer finds to write is might,

In short, he sees, ere long,

'Tis right to write to write what's right,

Yet right to right the wrong.

It has always been my boast as well as that of the *AUTOMOBILE MAGAZINE* that upon our discovery of any new skin game having for its object the automobile confraternity that both of us should at once proceed to do what we could to knock the game out. Here was a rule I felt sure would never have an exception—I was mistaken, for it has had just that very thing. Some burning gasoline on the back of my hand was the cause of my becoming acquainted with this new skin game, and of making me a firm supporter of it in place of the enemy I had thought I would always be to skin games, new or old. When the burn was causing me the most uncomfortable five minutes I've known in many a day, the druggist to whom I had hastened for relief painted the place with a preparation which instantly changed it from a raw, nerve wrecking affliction to a hardly perceptible discoloration without pain of any kind. This seeming miracle was all brought about by the use of New-Skin, a preparation which is advisable for such purposes, since, while it heals and protects the parts to which it is applied, it is guaranteed perfectly harmless.

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I wonder as I ponder  
 Why the ignition wires?  
 Also can you tell me why  
 It is that rubber tires:

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The number of things the average owner of an automobile does not know about the vehicle, its equipment, construction, care and repair would fill a good-sized book, and Mr. E. W. Roberts has taken them and filled his book—*The Automobile Pocketbook*. Here is a little volume of 300 pages, not a single page of which any man interested in automobiles or gas engines can afford to pass unread. The author knows his subject theoretically, prac-

tically, engineeringly and constructively, and he is the only man in this country who does know the subject equally well from each of these four vital points. It has been said that a man's pocketbook, if it be a well-filled one, is his best friend. If it is true, then certainly Mr. Roberts's *Pocketbook* is the automobilists' best friend, since never was there one better filled with things valuable to all who have or who expect to have anything to do with a conveyance that makes of distance a plaything and of time a servant.

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If you have an idea that automobiling owes you a living all you have to do is to pull off your coat and proceed to collect what you think is due you.

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Ever since I first became interested in the carriage which laughs at the horse, I have desired something which would enable me to explain how an automobile was constructed and what "made the wheels go 'round." In short there has from the very beginning been sadly needed an anatomical chart of the automobile, not a book full of words which, however explanatory they may be to the man who really knows all about an automobile and hence has no need for any explanatory chart thereof, are sheer Greek to the ordinary man who wants to learn something about the construction and mechanism of a car with the hope that doing so will enable him to handle his own car with intelligence and safety. If I have been asked for something of this kind once, I'll wager I have been asked a thousand times, and it was not until last week I ran across the very thing itself. Thomas Whittaker, 2 and 3 Bible House, this city, has a sectional chart, in colors, which permits you to lift off one part after another of an automobile 9½x13½ inches in size, studying

each part separately and learning its exact functions and connections with each and very other part. In short, with this Whittaker chart and the small amount of descriptive reading matter which accompanies it anyone, no matter how unmechanical he may be, can dissect an automobile so thoroughly as to make the mastery of its construction, management, care and repair mere child's play. If this Whittaker affair isn't a real long felt want filler, then you can take my head for a football, because if I'm mistaken in this matter, my being so is absolutely certain proof that while my head might be successfully used as a football, it never could be of any value as a think tank, and that is what I really use it for now.

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Turn about's fair play, methinks;  
For instance, when  
Men set up the drinks the drinks  
Upset the men.

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"Hey!" said the big policeman to us as we were going through Central Park on our way to one of the recent race meets out at Secretary Al Reeves' Morris Park motordrome. We heyed and the policeman tried to do his best to get the big roan horse he was mounted on within hailing distance of where Mr. Heller and I were seated in a big 40 H. P. Pipe car. But do as he could and would that horse wanted no automobile in his. After a little long-distance conversation between Mr. Heller and the mounted officer we learned that the latter was on a new mount and was anxious to begin the animal's city education. Upon this being ascertained Mr. Heller was all willingness to aid in teaching the brute that his friend, the enemy, meant no harm to him. Slowly, as though it were a creeping child, the big car was brought nearer and nearer to the noble animal, which wild eyed and

trembling awaited its approach. All the time this was taking place Mr. Heller kept up a flow of assuring words to the horse and at last the car had reached nearer enough to the snorting animal for Mr. Heller to reach out and pat him. Not a move was made either by car or horse for fifteen minutes, during which time they remained alongside of each other while we chatted with the policeman. Gradually the horse's nervousness forsook him and he seemed to recognize that the big car was not going to injure him.

Then we went slowly on our way and the officer made the horse cut circles around us, eventually bringing him behind the big car, which was sent at a faster gait, the animal keeping up and showing an ever-decreasing fear of the car. When finally we left the officer he thanked us profusely for our trouble, and Mr. Heller had made an engagement with him to come up to the Park the next day and continue the animal's education. As we went on our way I thought that all policemen were not enemies of automobilists, nor were all automobilists selfish users of the roads with no regard of anyone but their own rights and needs thereon. If we exhibited more of the spirit Mr. Heller had shown in this case we would have very many less enemies among the police and the people. That Mr. Heller is in possession of the correct ideas in relation to the use and abuse of automobiles is evidenced not alone by the little incident above, but by the still more material one that his ever-widening business interests have compelled him to take splendid new quarters at Fifty-eighth street and Broadway for display rooms solely, his former Fifty-second street establishment being kept for stock purposes only. By this move Mr. Heller can now guarantee immediate deliveries on Pipe cars, a thing he has been plan-

ning for ever since he took the American agency for this crack Belgium automobile.

Is it because we expect too much from an automobile or because we don't get what we are entitled to in it, that makes us dissatisfied?

When a pneumatic tire is properly inflated it is the most comfortable and the most satisfactory part of an automobile's equipment; when the tire is not inflated as its makers had intended it to be it is an abomination and a worry to the unfortunate user of it, such as none may even imagine unless they have experienced the misfortune personally. To properly inflate the tires of an automobile by means of the ordinary hand pump is a lengthy, laborious and unsatisfactory performance. The result of its being so is that many car owners postpone giving the tires their needed inflation, until in the end a set of new tires have to be bought to replace the ones which have been cut to pieces owing to the flabby condition they were allowed to be used in. It has remained for the Pacific Tucking & Mfg. Co., a Brooklyn concern, to do away with all the drudgery of tire inflating by means of a little machine weighing less than six pounds and occupying a space only eight inches long by seven and one-half inches wide.

By the use of this little contrivance any one can inflate a tire to any needed degree of hardness with no further bother than merely stopping the pump when a gauge shows the tire has been inflated enough. Could anything be easier than that? As the little invention is permanently attached to the automobile, in fact is a part of the machinery thereof, just as the flywheel is, it is always available when wanted and is ever ready to do the work demanded of it. Many equipments have been provided for the

comfort and convenience of automobile users, but I do not recall one which really meets as many calls for something of the kind that this little P. T. C. power pump does. No sensible automobilist will in future be without this attachment, no matter what others he may have to dispense with to permit him having this effective little time- and tire-saver upon his car.

Don't say advertising doesn't pay just because you tried it one day and got no returns. It's a strong and clever man who can drive in a nail with one blow.

The old bird after he buys his first automobile is never again quite so interested in what the initial cost of any subsequent car he may buy is. After he becomes, through owning his first car, a wise old bird, what he really wants to know about any subsequent car he may buy is how much it is going to cost him to run it. This runs up into a lot of money, both rapidly and persistently, hence the wise un very naturally desires to know whether the car he buys is a money conflagrator or not. To enable the public as well as the automobilists themselves, who in many cases are no better posted than the non-owners of cars, to have it proven just what it costs per passenger per mile to transport a passenger in an automobile over ordinary country roads, that ever-progressive and original automobile club, the Long Island, planned and successfully carried out a two days' economy trip. The route chosen was one which ran parallel with the railroad for almost the entire distance of about 200 miles. The railroad rates to carry each passenger this distance was \$9.06, while the average cost per passenger carried by the ten automobiles which made the run under the strictest test conditions, was only \$1.17, the extreme cost per automo-

bile being but \$1.80 per passenger, and the minimum cost but 80 cents. Compared with the railroad's \$9.06 for the same service you have an object lesson in the economy of motor vehicle transport which should cause railroad magnates no very pleasant thoughts when they hear the automobile constantly talked of as a certain competitor, if not in many cases an absolute supplanter of the more expensive railroad.

Many a man who wouldn't think of telling a lie is an adept at side stepping the truth when it comes to selling his car to a friend.

Talk about it being the dead season, why, say, I don't believe I ever ran across so many really interesting things since I have been in the business. If one-half of the plans I've run up against during the past two weeks are carried out, and I think more than that proportion will be, the automobilist of the vintage of 1906 is going to be a mighty lucky individual I can tell you. He'll have comforts and luxuries in the shape of time and labor savers such as a few years ago, the mere mention of their being possible would have been greeted with nothing more encouraging than a polite invitation to smoke up. I'm not going to try and tell you what these improvements all are, for fear that you might advise me to get a draft on my smoke tube, but I will give you just one example of how the makers are planning to make automobiling "one long, sweet song," as Mr. Cleveland would say. Talking with Mr. Gunderson recently on Broadway, I found that he, too, had a lot of good things up his sleeve for those who buy the Northern car next year. One of these is a permanently-attached tank of compressed air which the motor keeps constantly charged without any care or attention on

the part of the owner of the car. When a tire wants inflating all the lucky Northernite will have to do is to attach a short length of tubing, turn on the air and turn it off when his tire is sufficiently inflated. How's that, eh?

Don't think for a minute that any man is interested in your troubles—unless he is a repairman.

Any attempt to eliminate as far as possible the "step" or graded scale of change speed gear by means of a really efficient and reliable variable speed gear will be watched with interest by makers and users of cars alike. The elimination, even in part only, of the gear box will be a distinct advance toward a considerable reduction in the cost of the production of a popular car. Up to the present speed and power have only been possible either by using an abnormally large engine and a comparatively lightweight vehicle, which meant the best quality of material and workmanship throughout, and as a resultant, high cost, or a moderate sized motor acting through graded speed changes and all the wear and tear that the owner of the touring car is familiar with. The introduction of a commercially successful variable speed gear will unquestionably make for the simplification and cheapening of the small car. If practical, and easy of repair and adjustment, such a gear would readily supplant the present type of gear box and change speed mechanism.

In the course of some recent experiments made by M. Arnaux in France, it was found that much greater efficiency was obtained by causing a shower of sparks to pass between the ends of the plug, and excellent results were obtained by bending over the ends so that they presented curved surfaces to each other.